TRANPLAN 21 UPDATE
2002

Plan Overview & Policy Papers

Draft Final • For Public Comment

December 2002

Montana Department of Transportation *in conjunction with* Dye Management Group, Inc.

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PLAN OVERVIEW & POLICY PAPERS

Contents

1. Introduction to the 2002 TranPlan 21 Update 1

Process 2
Update Process 3
Extensive Public Involvement 6
Planning Approach 7

2. Transportation Trends and Issues 11

Planning for the Future 11
Forward Thinking 11
Technical Approach 12
Transportation Trends 12
TranPlan 21 Update – Citizen Issues 21

3. Goals and Actions 25

Roadway System Performance 26
Economic Development 33
Traveler Safety 41
Access Management 44
Land Use Planning 46
Bicycle and Pedestrian Transportation 49
Public Transportation 53

1. Introduction to the 2002 TranPlan 21 Update

Adopted in February of 1995, *TranPlan 21* is Montana's first statewide multimodal transportation plan. *TranPlan 21* is also an ongoing process that identifies transportation issues in Montana, evaluates future transportation concerns, and establishes policy goals and actions to guide MDT in addressing these issues. In the six years since its adoption, over seventy percent of the plan's actions were either implemented or underway. The purpose of the *2002 TranPlan 21 Update* is to ensure that MDT continues to address customer priorities and that transportation dollars are effectively spent on the programs and projects that reflect those priorities. A major focus for the update is determining how MDT can best support economic development through transportation policy and programs. Updating the plan also allows MDT the opportunity to ensure that *TranPlan 21* provides direction to MDT's performance-based goals for safety, pavement conditions, congestion, and bridge conditions. The *2002 TranPlan 21 Update* is presented in two sections:

Section I: *2002 TranPlan 21 Update* Overview, Policy Goals, and Actions.

Section II: *2002 TranPlan 21 Update* Policy Papers.

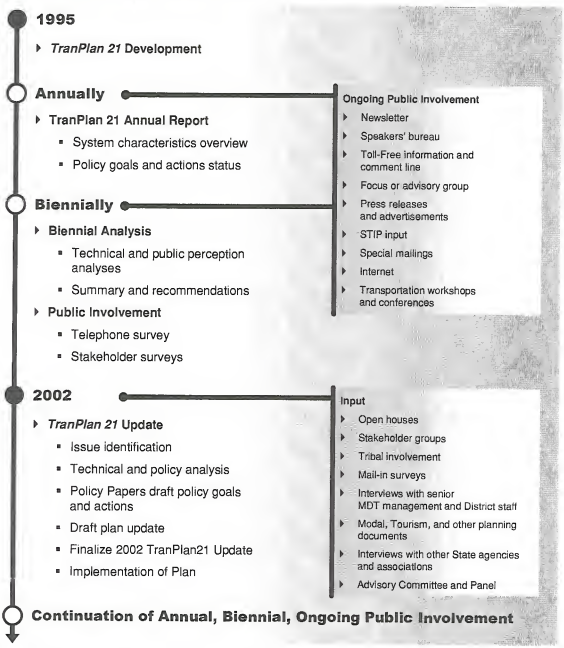
This section provides:

- **A description of the *2002 TranPlan 21 Update* process.** *TranPlan 21* established a continuing planning process that has involved many Montanans. The planning process involves transportation providers and users throughout the state in setting policy direction and prioritizing actions for managing and developing the transportation system.
- **Details of the on-going public participation process.** Through *TranPlan 21*, the Montana Department of Transportation works hand-in-hand with its customers – the citizens of Montana – to identify and address issues that are important to Montanans, such as transportation safety, economic development, and communication between MDT and the public.
- **The technical approach.** The 2002 *TranPlan 21* Update involved a detailed technical assessment of Montana's economic trends and the opportunities for, and limitations on, supporting economic development through transportation.
- **Policy goals and actions.** Policy goals and actions are presented that define the State's priorities and role in all modes. *TranPlan 21* places great emphasis on ensuring that policy goals are tied to actions that can be implemented. Practical steps, roles, and responsibilities that address transportation needs are outlined.

Process

MDT's long-range planning through *TranPlan 21* is an ongoing process. Exhibit 1 illustrates both the periodic and ongoing processes that *TranPlan 21* encompasses.

Exhibit 1: MDT Ongoing Planning Process



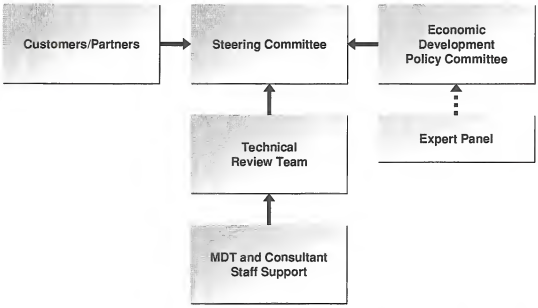
Throughout the year, MDT informs the public and solicits feedback through a variety of mechanisms, including a newsletter, a toll-free information and comment line, a specialized

e-mail address, and Internet updates. Since 1995, MDT has annually published a report on the implementation of *TranPlan 21*'s goals and actions, as well as on changes to the State's transportation system. On a biennial basis, MDT monitors changes in public and stakeholder group issues and priorities through mail-in and telephone surveys. Periodically, *TranPlan 21* itself is updated. The following section describes the process for the 2002 Update, which included extensive public involvement.

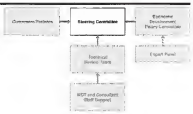
Update Process

The *2002 TranPlan 21 Update* process incorporated input from customers, support from consultants and MDT staff, expertise from economic policy experts, and review from MDT managers. A Steering Committee guided the update and adopted recommendations. Exhibit 2 illustrates the process.

Exhibit 2: *2002 TranPlan 21 Update* Process



Steering Committee



Roles
- Provided guidance and oversight to the process.
- Adopted recommendations.

Participants
- Montana Transportation Commission.
- MDT Administrators
- Chairman of the Aeronautics Board.

Economic Development Policy Committee

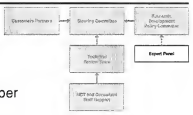
Roles

- Identified issues from policy makers and private industry.
- Recommended policy goals and actions.

Participants

- Senator Glenn Roush
- Representative Robert Story
- Dave Gibson, Chief Business Officer, Governor's Office
- Mark Simonich, Director, Department of Commerce
- Webb Brown, President, Montana Chamber of Commerce
- Jim Davison, President, Montana Economic Developers Association
- Dan Larson- Montana Transportation Commission

Economic Expert Panel



Role

- Provided expert input on the Montana economy and economic development opportunities.

Participants

- Kelly Flynn, Tourism Advisory Policy Council member
- Betsy Baumgart, Travel Montana
- Paul Polzin, University of Montana Bureau of Business and Economic Research
- Will Kissinger, Administrator, Montana Department of Agriculture
- Pam Langley, Montana Agricultural Business Association
- Richard Owen, Montana Grain Growers Association
- Cary Hegreberg, Montana Contractors Association
- Barry Stang, Montana Motor Carriers Association
- Jay Foley, President, Diversified Transfer & Storage
- Vern Petersen, Fergus County Commissioner, MACo Transportation Committee
- Mike Kerns, President, Montana League of Cities and Towns
- Gordon Belcourt, Montana/ Wyoming Tribal Leaders Council
- Lori Ryan, Governor's Office of Indian Affairs
- Gene Vuckovich, Executive Director, Montana Rural Development Partners, Inc.
- Ron Mercer, Airport Director, Helena Regional Airport Authority
- Pat Keim, Director of Government Affairs, Burlington Northern/Santa Fe
- Bill Fogarty, General Manager, Port of Montana

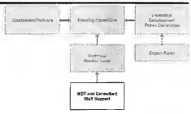
- Mark Cole, Dick Irvin Trucking
- Rick Hayes, Economic Development Specialist, Qwest
- Dick Brown, Executive Director, MHA Ventures, Inc.
- Cordell Ringel, Transportation Planner
- Rick Edwards, Montana Power Company
- Theresa Erickson, Northern Plains Resource Council
- Karlene Grossberg, Chief, Public Assistance Bureau
- Gene Culbertson, Fort Peck Tribes
- RJ Young, Montana Tribal Tourism Alliance
- Jonathan Windy Boy, Chippewa Cree Business Committee
- Michelle Henderson, Executive Director, American Indian Business Leaders
- Angela Janacaro, Montana Mining Association

Technical Review Team

Role
- Guided and informed technical analysis.

Participants
- MDTStaff.

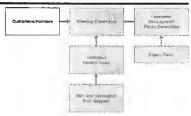
Staff Support MDT and Consultant Staff



Role
- Drafted policy papers.
- Facilitated public input.

Participants
- Technical Review Team
- Additional MDT Administrators and Staff
- Dye Management Group, Inc.

Customer/Partner Involvement



Role

- Identified issues.
- Provide input into draft documents.

Participants

- Open House Attendees
- Stakeholder Focus Groups
- Newsletter Recipients
- Local Government Officials
- Tribal Governments
- Telephone Survey Participants
- MDT Website Visitors
- *TranPlan 21* Email Recipients

Extensive Public Involvement

The *2002 TranPlan 21 Update* involved collaboration among Montana residents, business owners, federal and state agencies, local government officials, and tribal officials, and transportation system users. Extensive public participation allows MDT to collect and address a broad range of transportation concerns. Early and ongoing opportunities for public involvement from transportation users and providers across Montana helped to shape revised goals and actions for the *2002 TranPlan 21 Update*. Public input confirmed that the 2002 TranPlan Update should focus on economic development. In addition, public input led to the addition of a new policy paper – Traveler Safety – and corresponding goals and actions.

Exhibit 3 details the specific mechanisms and purposes for public involvement in the update.

Exhibit 3: Extent of Public Involvement

When	Purpose	Mechanisms
Ongoing – Before, during, and after the *2002 TranPlan 21 Update* process.	Provide information on the plan, collect data and feedback, and communicate other opportunities for input.	■ Biennial stakeholder and telephone surveys. ■ E-mail address and Website. ■ Toll-free phone number. ■ Print and broadcast media. ■ Newsletter. ■ Inserts in transportation stakeholder mailing lists. ■ Presentations to stakeholder and partner organizations.

When	Purpose	Mechanisms
Stage I – After preliminary definition and identification of issues and trends, but before developing policy goals, actions, and plan alternatives.	Inform the public of the update process, obtain input on identifying and refining issues and concerns, and build support for the plan and its implementation.	▪ Newsletter inserts and targeted mail-in surveys. ▪ Open houses and stakeholder focus groups in each MDT district. ▪ Tribal government meetings. ▪ Meetings with local government associations.
Stage II – After developing alternatives for policy goals, actions, and plan alternatives, but before drafting plan update.	Obtain input on alternative policy goals and actions.	▪ Newsletter inserts and targeted mail-in survey. ▪ Open houses and stakeholder focus groups in each MDT district. ▪ Tribal government meetings. ▪ Meetings with local government associations. ▪ METNET- Montana Educational Telecommunications Network video conference.
Stage III – After drafting plan update, but before finalizing and adopting plan.	Provide last opportunity to comment on the draft plan, meet federal public review requirements.	▪ Disseminate draft plan to public libraries. ▪ Provide summary to public on request. ▪ E-mail, and MDT Website. ▪ Toll-free phone number. ▪ Provide draft plan to local governments and tribal officials. ▪ Newspaper ads and postcards.

Planning Approach

The *2002 TranPlan 21 Update* provides a comprehensive transportation perspective that includes all modes. A key goal in the technical approach to the update has been to consider all modes of transportation, including automobiles, passenger and freight trains, trucks, air, transit, bicycles, and walking in order to manage and develop the transportation system that best meets local and statewide transportation needs and goals.

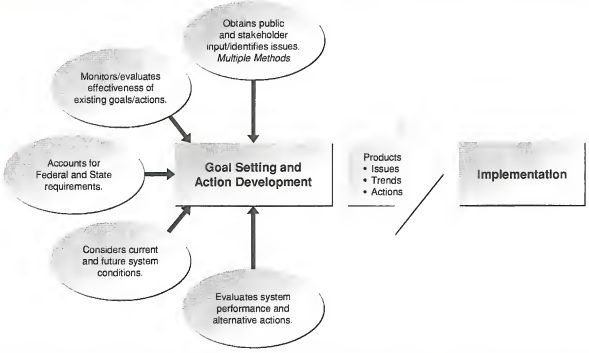
The technical analysis helped to ensure that the policy choices developed by the plan are realistic, address Montana's most pressing needs, and can be implemented.

The *2002 TranPlan 21 Update* focused on two questions:

- Is MDT on track?
- How can MDT best support economic development?

The approach is shown in Exhibit 4.

Exhibit 4: Goal Setting and Action Development Approach



The 2002 *TranPlan 21* goal setting and action development approach involved the following steps:

- **Identify public and stakeholder issues.** The public and stakeholder involvement process set the plan update agenda and Montana policy makers mandated the economic development focus. Montanans confirmed the importance of economic development and provided input that resulted in the addition of traveler safety as a focus. The *2002 TranPlan 21 Update* issue analysis and biennial survey results indicated that MDT is on track in meeting Montanans' priorities.
- **Monitor effectiveness of goals and actions.** *TranPlan 21*, through the annual report, management systems, and the Performance Programming Process (P^3), monitors the effectiveness of goals and actions. The update process used their results to amend the plan to improve its effectiveness.

- **Account for federal and state requirements.** The plan update process meets federal requirements for updating *TranPlan 21* and reflects changes in state statues and federal regulations.
- **Consider current and future conditions.** *TranPlan 21* monitors and evaluates transportation system conditions. These results are published in annual monitoring reports. This analysis identifies future conditions that MDT must plan for.
- **Evaluate system performance and alternative actions.** To develop policy goals and actions, *TranPlan 21* considers future system performance and how MDT can take action to influence the future performance of the system. The update focused on how MDT can support desired economic development and safety outcomes in Montana.

2. Transportation Trends and Issues

MDT plays a leading role in the planning, development, and operation of Montana's multimodal transportation system. Through *TranPlan 21*, MDT establishes forward-looking goals for transportation in Montana and defines the actions it will take to move Montana towards these goals. To plan for the future it is necessary to understand the trends that will impact Montana's transportation future and determine how Montanans' would like these trends to be addressed.

Planning for the Future

The *TranPlan 21* process considers all modes of transportation; however, it is important to recognize that MDT has a varied level of responsibility for, and involvement in, different elements of the multimodal transportation system. At a policy-level, MDT is the primary agency responsible for addressing the State's interest in an efficient and effective multimodal transportation system. At the business-level, MDT's responsibility centers on the ownership and operation of the state highway system with other responsibilities for public transportation in rural areas, general aviation, and motor carrier regulation.

Forward Thinking

The purpose of planning is to determine as best we can what the future conditions will be so that we can plan to address them. The further forward we look, the less accurate we can be. The challenge for MDT is that infrastructure has a long life. Capital, once invested to build a new bridge or widen a road, cannot then be used elsewhere if the future does not turn out as expected. While making long-range planning difficult, these considerations make it all the more important. MDT's objective is to ensure that transportation revenues are used most cost-effectively. This requires *TranPlan 21* to monitor the current performance of the system and, in order to guide funding priorities, evaluate the future impact on the performance of the transportation system of many trends.

Technical Approach

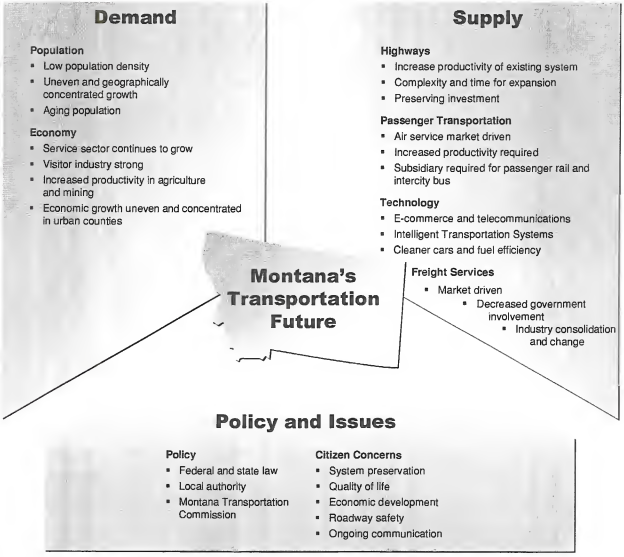
The *TranPlan 21* technical approach has the following elements:

- **Monitor transportation conditions and performance.** This is performed annually and reported in the *TranPlan 21 Annual Report* which includes information on the use, operating conditions, and physical conditions of the transportation infrastructure. It also provides information on the transportation services available in Montana such as aviation, passenger rail, freight rail, and other passenger transportation.
- **System performance assessments.** MDT uses computer-based management systems to assess current conditions and evaluate the impacts of funding options, future traffic volumes, and other factors upon performance. The results provide a forecast of the physical and operating conditions of the transportation infrastructure for which MDT has financial responsibility.
- **Strategic trends analysis.** The *TranPlan 21* update cycle provides a periodic reassessment of the strategic trends affecting transportation that are addressed through the *TranPlan 21* goals and actions. The intent is to ensure that MDT's policy goals and investment priorities are forward looking and that they are not merely "solving yesterday's problems."

Transportation Trends

The strategic trends that impact Montana's transportation future are depicted in Exhibit 5.

Exhibit 5: Trends Affecting Transportation



Demand for Transportation

TranPlan 21 approaches long-range planning from the perspective that:

- **Transportation is a demand derived from the level of population and economic activity in the state.** The more we can be sure about future economic and population characteristics of the State, the greater the accuracy with which we can determine future travel demands.

Population Trends

Montana's population trends will have the most significant impacts on the demand for transportation. The number of people, their ages, and where they live are important considerations. The major trends that Montana has experienced in the past decade are forecast to continue.

- **Low population density.**

  Montana's 2000 population was 902,195 with about six people per square mile. This makes Montana among the country's least populated states; only Alaska and Wyoming have fewer people per square mile. Through 2005, Montana's population is forecast to grow close to the national rate of 30 percent.

- **Uneven and geographically concentrated growth.**

  - **Population growth will be concentrated in a few counties.**
  - **Population will continue to shift from east to west.**

  Population growth in Montana occurs primarily through migration. Within Montana, population change has been driven by the movement of people form agriculture and resource-based communities to urban areas in search of employment. During the 1990s, population and income growth favored western Montana. Population and employment forecasts indicate this trend will continue.[1] Through 2025, population growth will be concentrated in the most urban counties. In aggregate, Flathead, Gallatin, and Missoula Counties are forecast to grow by a total of 45 percent and Lewis and Clark and Yellowstone Counties by 36 percent. Silver Bow and Cascade Counties will experience stagnation with population forecast to fall in all age groups except for the elderly where it is expected to grow by 85 percent.

- **Aging Population.**

  Montana's population has been aging at a faster pace than the nation's as a whole and, at the same time, experienced a decrease in the proportion of younger workersfrom 18 to 44. This trend is forecast to continue and become more accentuated. Through 2025, the growth rate of Montanans 65 or older is predicted at 102 percent (more than doubling), compared to a national rate of 84 percent. Population aging will be more acute outside of the five faster growing urban counties,

Population Trends – Transportation Implications:

- Travel demand growth will be greatest and most concentrated in Montana's most urban counties.
- Planning is required to maintain mobility in the corridors into and between the cities in the faster growing counties.

[1] Conclusions drawn from population and employment forecasts prepared for the Montana Department of Commerce by NPA.

- Capacity improvement needs to manage or respond to growth will be concentrated in these growing areas.
- Montana will remain an extremely rural state, with a large transportation system and relatively small population base from which to fund that system.
- Transportation needs of the elderly will grow
- Public transportation for the elderly will increase in importance.

Economy

The level of employment and the amount of income generated by the Montana economy are two trends of importance for transportation planning. It is through employment and income that the demand for transportation is established. By assessing Montana's future industry and employment, and where it is likely to be located, it is possible to draw conclusions regarding the nature and location of transportation demands.

In considering these trends, it is important to realize that where the economy is strong and employment opportunities exist the population will grow. This is especially true in Montana. Historically, people have moved to Montana when the economy has been poor in California and Washington State and there are both perceived opportunities in Montana and a belief that, with a low cost of living, dollars will go further.

- **Increased productivity in mining and agriculture accompanied by decreased employment.**

  Montana's economy has long been dependent on agriculture and natural resources. The transportation system supports this economy by providing the infrastructure through which major commodities such as grains, livestock, lumber, natural gas, oil, and coal are exported from the state. Montana's traditional economic base will continue to generate demands for bulk transportation services. However, automated production processes have enabled Montana industries to maintain or increase output while reducing employment and wages. Automation of production maintains the importance of the transportation system for shipping commodities, although it reduces employment and income in the regions of the State where these industries are dominant. This, in turn, reduces travel demand for both the highway system and for air transportation service in these areas.

- **Employment and income from services will continue to grow most quickly.**

  Over recent decades, the national and Montana economies have been changing with the introduction of new technologies and production methods, the establishment of small manufacturing industries, and the increasing importance of both household and business demands for services. Service sector employment is steadily increasing as a percentage of total employment; by 2000, it accounted for 60 percent of all employment. These trends are expected to continue.

- **Tourism and visitor industry will grow.**

  The visitor-industry is an important component of the Montana economy. The overwhelming majority of visitors drive into the State, although airplane deboardings in the State have been increasing. Out-of-state visitors increased 14 percent between 1993 and 2000. These trends are expected to continue.

- **Continued decline in forest products industry.**

  All segments of Montana's wood products industry are declining. Production of lumber and plywood in Montana is at the lowest levels since the mid-1980s. The estimated annual lumber production in 2001 is just over 1.1 million board feet, a 6 percent decline from 2000; and plywood production fell to an estimated 555 million square feet in 2001, a 4.5 percent decline from the previous year. Accordingly, gross state product generated from lumber and wood products declined by 38 percent in real value between 1990 and 1999.

- **Economic growth and diversification will be concentrated in the fastest growing counties.**

  New travel demands arising from economic development and diversification will be concentrated in the fastest growing counties. The travel demands anticipated from these industries will be for access to air transportation services and reliable journey times on the highway system. Due to their geographic concentration, they will increase demands on highway corridors into and through Montana's main urban centers.

Economy – Transportation Implications:

- The transportation system must continue to meet the needs for shipping high-volume, low-value commodities.
- Highway system investment needs to support economic development.
- Montana will remain heavily dependent on rail for shipping bulk commodities.
- Economic diversification and service sector growth will increase demand for truck transportation.
- Intermodal package delivery will be required by growth industries.
- Increased air travel will be required to deliver producer services and increased regional travel will be demanded to deliver consumer services.
- Reliability as opposed to journey time will remain key performance factors for just-in-time delivery.

Citizen Issues and Policy

The demand for and supply of transportation are impacted by government policy and citizen issues and priorities. These trends have considerable implications for Montana's transportation future.

Citizens Transportation Concerns

TranPlan 21 is customer driven. Every two years customers and stakeholders are surveyed to identify their issues and priorities regarding MDT's involvement in transportation. This ensures that what is important to MDT's customers is addressed through the planning process. Through telephone surveys, focus groups, advisory groups, and other means of consultation, *TranPlan 21* monitors trends in Montanans' transportation concerns.

- **Preserving the transportation system is a consistent priority.**

  Montanans are generally satisfied with the state's transportation system and MDT's overall planning direction. The different input mechanisms consistently indicate that MDT's overall policy direction and performance address Montanans' priorities.

- **Quality of life.**

  An efficient, well-maintained, year-round transportation system is an important aspect of quality-of-life for Montanans. Due to the state's rural nature, climate, and distances to travel, system maintenance operations are important to Montanan.

- **Economic development is important to Montanans.**

  The *2002 TranPlan 21 Update* found that Montanans are particularly concerned about economic development. A well-maintained and efficient transportation system is considered essential for the State's economy.

- **Roadway Safety is a Statewide Concern.**

  Safety is an issue that Montanans consider a high priority for MDT. In particular, bicycle and pedestrian safety, motorcycle safety, and increased roadway signage were concerns. Addressing the State's aging population and its impacts on roadway safety is also a concern.

- **Communication and information regarding plans.**

  Montanans value the level of communication between MDT and the public regarding plans, projects, and operations. There is a consistent interest in improved communication and information.

Policy

Federal, state, and local governments impact the demand for transportation and the supply of transportation infrastructure and services through the enactment of law, regulation, and the allocation of funding. Together these policy trends effect the transportation future addressed by the *TranPlan 21* 2002 Update.

- **Federal law**

  Federal policy has consistently placed strong emphasis on the government's role in the provision and operation of an efficient national transportation infrastructure. In exercising this role, the trend has been to place increased emphasis on using funds cost-effectively to maintain and operate the transportation system. Historically, federal funding for transportation has been robust and Montana is extremely dependent on the federal government for transportation funding. For the future, the most significant federal policy issue for Montana is the allocation of funds between states. In the areas of essential air service and AMTRAK operations, the future rests upon the continuation of policy support for Federal subsidies

- **State law**

  Montana law impacts the allocation of funds between highway systems in Montana and different parts of the state. Montana law also determines state revenue available to MDT. This revenue is used by MDT to provide the state match for federal funds and to fund highway maintenance. With continued increases in the federal program, MDT may not have adequate state funds to meet the federal match requirements. In recent years, there has been a strong state policy interest in supporting economic development through transportation.

- **Local governments**

  Local government influences the transportation future by participating in urban area transportation planning and metropolitan planning organizations, by operating airports, and by operating public transportation systems. Local units of government have authority over land development review and regulation. The decisions they make regarding the location of new development, site plan review, and other land use issues impact the volume and type of travel patterns on the highways that MDT is responsible for.

- **Transportation Commission**

  Montana's Transportation Commissioners are appointed by the Governor to represent five financial districts. They represent a citizen's perspective on transportation issues. As a citizen commission, the members ensure that anyone who has an issue is heard and that the planning and development of Montana's transportation facilities are balanced and provide benefits to the entire state.

Supply of Transportation Infrastructure and Services.

All levels of government, private businesses, and not-for-profit organizations play roles in the supply of transportation infrastructure and services in Montana. Together, they make up the supply side of Montana's transportation future.

Highways

In terms of the direct supply of transportation infrastructure, MDT is primarily responsible for the state highway system, the Interstate and non-Interstate NHS, and a number of general aviation airports across the state. The major trends shaping the future supply are:

- **Increasing the productivity of the current system.**

  From the government's perspective, moving more people and more goods through the existing system, while maintaining a reliable service level, increases the productivity of the capital invested in the transportation infrastructure. The industry trend is to apply engineering knowledge, technology such as smart traffic signals, and corridor management to increase the productivity of our transportation system.

- **Complexity, costs, and timeline for system expansion.**

  Expansion of the system to meet new travel demands is MDT's responsibility. MDT's ability to expand the system is constrained by the increased costs of new construction compared to the limited availability of funds and the time that the project development process requires. It is a complex process that increasingly requires multi-jurisdictional support and community consent to move forward.

- **Preserving investment in the current system.**

  The highway system is the result of a large public investment. The industry trend is for a more business-like management of this investment through good preventive maintenance and preservation management practices. The objective is to reduce the lifecycle cost of highway infrastructure.

Passenger Transportation

Passenger transportation services are supplied by local governments, not-for-profit agencies, and private organizations across the state. The major trends shaping Montana's transportation future are:

- **Air transportation services are determined by market demand and the changing economics of the airline business.**

  With the exception of subsidized service to eastern Montana, the supply of air transportation services in Montana is a private business decision. The future will be

determined by the level of demand in Montana and the future economics of the airline industry. Given the small market in Montana and the limited competition, the cost of air travel to Montanans is expected to remain high.

- **Need for increased public transportation productivity.**

  Montana has many public and not-for-profit transportation providers serving the elderly, those with special needs, and the public at large. While demand for these services has increased, the supply will be constrained by the level of federal and state funding and local support.

- **Subsidies required to provide intercity passenger service in most areas.**

  Passenger rail service across the Hi-Line and intercity bus service in many parts of the State can not be supplied without subsidies to private industry. Revenue from passengers is not enough to cover costs. Unless government and tax payers are willing to provide subsidies, private industry can not supply these services.

Freight Services

Freight transportation services are provided by private industry and the rates charged and services provided are determined by their business decisions.

- **Freight shipping services by rail and truck determined by market forces and the changing organization of the industry.**

  Services in Montana are determined by the demand for shipment into and out of the state and the business decisions made by motor carriers and freight rail companies regarding how to most profitably serve their customers.

- **Decreased government involvement.**

  The trends have been for progressively less government involvement in these industries, so that today, with deregulation, service location and the rates charged are private business decisions.

- **Industry consolidation and change.**

  In the rail industry and, to a certain extent the motor carrier industry, the trend has been to consolidation and the use of technology to reduce the cost and increase productivity.

Technology

The continued pace of technological change will impact Montana's transportation future. While these trends are hard to determine, they are important to consider.

- **E-commerce and Telecommunications.**

  The telecommunications revolution of the late twentieth century and early twenty-first century impacts transportation. These technologies impact the demand for transportation and provide opportunities for supply-side transportation strategies such as transportation demand management, telecommuting, and long-distance learning.

  E-commerce, using the telecommunications infrastructure, will have an impact on future transportation demands. The implication of continued growth in e-commerce and web-based applications is that there will be increased volumes of small package delivery and perhaps a substitution of web-based activities for some automobile trips.

- **Transportation technologies.**

  Technological change in designing, building, and operating the transportation infrastructure will provide opportunities for increased efficiency and safer transportation systems. Intelligent transportation systems will continue to improve the information available for travelers for pre-trip and on-route trip-planning. This will result in the more efficient use of individuals' time. Traffic control technologies such as traffic signalization will continue to develop and provide technologies that MDT can apply to improve the productivity of the infrastructure.

- **Cleaner emissions and improved gas consumption.**

  Through each model cycle, automobile engines become cleaner and gas consumption goes down. In turn, transportation technologies using fuel cells and hybrid engines will continue to provide transportation options that increase fuel efficiency. However, to achieve these benefits, Americans will have to choose to purchase vehicles other than larger, heavier, less fuel-efficient vehicles as they have done recently. The importance of these trends for the future in Montana is that increased fuel efficiency will reduce the gas tax revenue per mile driven.

TranPlan 21 Update – Citizen Issues

There was considerable consistency in the input collected. In general, Montanans indicated that *TranPlan 21's* overall policy direction aligns with their priorities. The major customer issues identified and addressed by the plan update are listed below.

- **Montanans are generally satisfied with the State's transportation system and MDT's overall planning direction.**

  The public input mechanisms consistently indicated that MDT's overall policy direction and performance address Montanans' priorities. The biennial telephone survey indicated that, with some exceptions, Montanans are satisfied with their transportation system. Surveys completed by public meeting attendees and planning newsletter recipients revealed that almost 90 percent of respondents agreed with MDT's overall policy direction: first preserve and maintain the system, then make

safety improvements, and then expand capacity. When asked, survey respondents said they would distribute transportation resources as follows: first preservation, then safety, then expansion.

- ***TranPlan 21* should focus on economic development.**

  Economic development issues were raised at all public meetings. Public meeting and mail-in survey respondents thought economic development should be a major focus of the *2002 TranPlan 21 Update*. Specific issues raised included highway expansion, developer impact fees, improvements to better accommodate tourism, and freight-related needs.

- **Roadway safety is a statewide concern.**

  Roadway safety was also mentioned at every public meeting. In particular, bicycle and pedestrian safety, motorcycle safety, and increased roadway signage during construction were concerns. Addressing the State's aging population and its impacts on roadway safety was also frequently mentioned in public meeting and mail-in surveys.

- **MDT should continue to improve communication with customers.**

  Biennial telephone survey respondents expressed a desire for better communication from MDT.

- **Montana's rest areas need improvement.**

  Rest area level of service was identified at every public meeting as an issue that needs to be addressed in the *2002 TranPlan 21 Update*. Biennial telephone survey respondents listed rest areas as one of the transportation system components with which they were only slightly satisfied. The 2003-2007 Tourism and Recreation Industry Strategic Plan public meetings echoed those concerns.

- **Trends in the State's agricultural industry have impacted roadway system performance and will affect Montana's rail system.**

  Public meeting participants noted that consolidation in the agricultural industry has led to increased truck traffic and consequent wear on the State's roadways. The 2000 Montana Rail Plan noted that grain dealers and railroads have been building 110-car loading facilities in order to reduce their costs. There is continued public and stakeholder concern over freight rail service and rates. There is further concern that some rail branch lines will be abandoned.

- **Montanans are concerned about future funding for transportation improvements.**

  The State's ability to meet matching requirement to obtain future federal funding was an issue raised at several public meetings. MDT management also expressed concern with MDT's ability to fund the State portion of federally funded projects.

- **Montanans want additional passenger rail service.**

  Public meeting participants also voiced their support for passenger rail, especially through the southern part of the state. Biennial telephone survey respondents concurred. However, private businesses provide rail infrastructure and rail services, and decisions to increase these services are made by those private businesses, not MDT. The 2000 Montana Rail Plan noted public support for expansion of passenger rail service, but also noted that railway expansion is unlikely in the current environment.

- **Context sensitive design is an important issue in some regions and needs to be consistently employed.**

  Public meeting participants in Missoula and Great Falls stated that transportation design should be better integrated with communities.

- **MDT should continue to coordinate with neighboring states and provinces.**

  According to the Vision 2005 Task Force on Agriculture, highway transportation regulations among Montana's neighboring states and provinces are inconsistent. Negotiating among states and provinces to standardize regulations should improve the hauling of Montana products. MDT District Administrators also expressed a desire to coordinate planning with neighboring states and provinces.

3. Goals and Actions

TranPlan 21 has established Montana's preferred future transportation system and the policy goals and actions that define the state's role in moving Montana toward that future. The preferred future developed through *TranPlan 21* provides Montana with a long-range statewide vision for the management and development of the transportation system. It is a vision that can be achieved. The policy goals and actions are MDT's plan for achieving these objectives.

Roadway System Performance

POLICY GOAL A	**Establish explicit priorities for roadway improvements. These priorities are preservation, capacity expansion, and other improvements.**
Issues	■ Roadway needs are greater than revenue and priorities must be set. ■ To set informed priorities, MDT and its customers need to understand the financial constraints affecting the preservation and development of the system. ■ MDT customers want more information on highway improvement plans, programs, and project delivery status.
Action A.1	**Enhance P^3 to strengthen the link between policy and planning goals and project selection.** MDT will enhance the process used to assess the impact on different types of system performance from the allocation of resources between categories of need.
Desired Outcome	Performance-based funding decisions.
Action A.2	**Provide and disseminate transportation system performance information.** MDT will maintain an ongoing communications program to educate and inform its customers, partners, and stakeholders regarding its accomplishments in meeting performance objectives and the relationship between system-level investment decisions and system-level performance.
Desired Outcome	Customer understanding of the impact on system performance of different funding levels.
Action A.3	**Regularly update the cost allocation study to ensure equity in user fees.** MDT will periodically update the cost allocation study to ensure equitable fees for highway use.
Desired Outcome	Highway users contribute their fair share of highway use taxes.

Roadway System Performance

POLICY GOAL A	**Establish explicit priorities for roadway improvements. These priorities are preservation, capacity expansion, and other improvements.**
Action A.4	**Assist local jurisdictions to improve their pavement management practices and to support their use of pavement management systems.** MDT will continue working with local governments to help them make better decisions in selecting Urban System preservation projects and in spending their funds off-system.
Desired Outcome	Use of contemporary pavement management tools by local jurisdictions.

Roadway System Performance

POLICY GOAL B	**Preserve mobility for people and industry in Montana.**
Issues	■ MDT will have to balance resources between where travel demand is growing versus where it is stable or declining. ■ Montana's growth trends will increase travel demand on the corridors into and through the urban centers including Flathead, Gallatin, and Missoula Counties. In other urban counties that will grow more slowly, business and development tends to relocate slowly along the arterials into the urban centers. MDT will need to target capacity improvements or system expansion to address these demand trends. ■ MDT's success in maintaining mobility and achieving economic development and quality of life objectives is increasingly dependent upon coordinated investment and planning with local jurisdictions.
Action B.1	**Establish criteria (goals and guidelines) to determine when to add capacity as part of reconstruction projects.** Applying guidelines for categorizing projects in the project selection process will help MDT use technical data and expertise to determine widening needs for maintaining mobility.
Desired Outcome	Maintenance of level of service.
Action B.2	**Establish and prototype a process and guidelines for developing corridor-level strategies that address reconstruction needs.** The lessons learned from a prototype corridor strategy would be used to develop guidelines for determining, prioritizing, and staging reconstruction projects primarily driven by the need to rebuild old highways.
Desired Outcome	Corridor level improvement strategies.

Roadway System Performance

POLICY GOAL B	**Preserve mobility for people and industry in Montana.**
Action B.3	**Establish and implement proactive corridor preservation in corridors forecast to have capacity constraints over the next twenty years.** Proactive corridor preservation will enable MDT to maximize the productivity of the State's existing highway system while reducing the cost and the time it takes to develop and build projects.
Desired Outcome	Corridor preservation.
Action B.4	**Inform local planning and development officials of the State's desire to preserve key transportation corridors, encourage and assist local jurisdictions to address right-of-way preservation in local land use plans, access management programs, and support MDT objectives for these transportation corridors.** MDT will work with local jurisdictions to ensure that local decisions do not impact corridor right-of-way preservation, to establish a coordinated approach to supporting the future development of Montana's major transportation corridors, and to provide technical assistance to local jurisdictions.
Desired Outcome	Actions by local jurisdictions to support corridor preservation.
Action B.5	**Pursue advanced acquisition of right-of-way (fee simple or less than fee simple) on highways that are currently congested and forecasts indicate will be congested in the next twenty years.** Advanced acquisition of right-of-way reduces lifecycle costs because the right-of-way can be acquired at lower cost than it would be after development is allowed to occur.
Desired Outcome	Right-of-way acquisition.

Roadway System Performance

POLICY GOAL B	Preserve mobility for people and industry in Montana.
Action B.6	**Develop a Context Sensitive Design toolkit to support project development.** MDT will develop a series of conceptual design solutions that address parking, community character, pedestrian accommodation, bicycle facilities, wildlife crossing and traffic calming that are applicable to Montana's different environments.
Desired Outcome	Context Sensitive Design toolkit.

Roadway System Performance

POLICY GOAL C	**Improve the productivity of the roadway system.**
Issues	■ Improving roadway productivity is a highly cost-effective strategy for maintaining mobility. ■ Maximizing the productivity of the existing system will be critical given the type and location of expected travel demand growth and MDT fiscal constraints. ■ Coordinating investment and planning with local jurisdictions will be of strategic importance for Montana.
Action C.1	**Include consideration of public transit needs in updates to the Geometric Design Standards and identify criteria and locations for transit supportive design.** MDT will establish options for accommodating public transportation most effectively on Montana's highways as demand increases.
Desired Outcome	Transit needs addressed in geometric design standards.
Action C.2	**Identify and deploy cost-effective Intelligent Transportation Systems applications to improve safety and system productivity.** MDT has a number of ITS applications in place and under deployment that positively affect travelers and the transportation system. MDT will continue to deploy advanced technology to improve the productivity and safety of the transportation system.
Desired Outcome	Improved safety and system productivity.
Action C.3	**Encourage the metropolitan planning organization areas to include enhanced traffic control and management systems in their long-range plans.** Traffic volumes will increase in Montana's urban areas due to growth. This action encourages MPO planning for traffic control and traffic management to improve system productivity and air quality enhancement.
Desired Outcome	Improved air quality and system productivity.

Roadway System Performance

POLICY GOAL C	**Improve the productivity of the roadway system.**
Action C.4	**Strengthen MDT's traffic operations capability to reduce delay and improve travel times through better traffic management.** Currently, MDT has very limited capability to ensure that its many traffic signals have optimal timing and coordinate with city operated signals. Building this capability will represent a cost-effective approach to maintaining mobility and addressing travel demand growth.
Desired Outcome	Increase in MDT's traffic engineering capabilities.

Economic Development

POLICY GOAL A	**Preserve the efficient functioning of the transportation system used by Montana's export-oriented ("basic") industries to access regional, national, and international markets.**
Issues	■ Montana's basic industries are heavily dependent on the existing transportation system. MDT needs to maintain the efficiency and reliability of this system. ■ Montana also has a strong policy interest in the preservation of economical rail services. ■ Technical analysis has shown that highway investments can best support economic development by improving system reliability.
Action A.1	**Work with Montana industry and shippers on a continuing basis to identify infrastructure, regulatory, and administrative barriers to their efficient use of the transportation system.** Infrastructure, regulatory and administrative constraints would be identified annually and an action plan specified for addressing them through MDT's existing business processes.
Desired Outcome	Industry defined constraints identified and addressed.
Action A.2	**Use input from A.1 and technical analysis to identify the freight mobility needs of Montana's basic industry on the segments of the state highway system where growth is forecast and specify strategies for addressing these needs.** Freight mobility improvements, including building truck bypasses, designating truck routes, and preserving arterials will target the growing areas.
Desired Outcome	System reliability is maintained.
Action A.3	**Continue to provide state-level leadership in regional initiatives to increase the productivity of the motor carrier industry.** MDT will continue to participate in state and regional initiatives, including ongoing weigh-in-motion facilities to increase the motor carrier industry's productivity and reduce shipping costs to its customers.
Desired Outcome	Reduced shipping costs.

Economic Development

POLICY GOAL A	**Preserve the efficient functioning of the transportation system used by Montana's export-oriented ("basic") industries to access regional, national, and international markets.**
Action A.4	**Conduct quarterly meetings with rail industry representatives, monitor developments in the industry, and work with the industry where possible to preserve the existing rail system.** Through this dialogue between rail providers and the State, areas of common interest between the industry, shippers, and the State can be identified in order to partner to preserve the existing system and improve the services available to Montanans.
Desired Outcome	Information on industry decisions affecting service for Montana industry.
Action A.5	**Update the State rail plan to identify potential highway and rail service impacts arising from structural change in the rail industry, and define governmental actions to address them that will support economic development.** The investment and operating decisions of the rail industry impact Montana's economy as well as MDT's management of the highway system. The action will identify the intermodal needs arising from those decisions.
Desired Outcome	Identification of future highway needs due to rail service trends.
Action A.6	**Provide technical support to Montana communities and airport operators to preserve the federal Essential Air Service Program in cooperation with the Governor's Task Force.** MDT, in cooperation with the Governor's Essential Air Service Task Force, will advocate for the continuation of federal Essential Air Service passenger subsidies.
Desired Outcome	Continued federal funding for the Essential Air Service Program in Montana.

Economic Development

POLICY GOAL B	**Monitor and address capacity needs arising from Montana's economic growth trends.**
Issues	■ Growth will be concentrated in the most urban counties which will require corridor planning and management. ■ Economic development will create the demand for system improvements. ■ Without planning and investment, MDT's transportation infrastructure will not be able to accommodate growth. ■ There needs to be continued recognition of transportation needs in rural areas and to support existing and planned economic development.
Action B.1	**Specify strategic economic development transportation linkages based on emerging travel demands and findings from the Highway Reconfiguration Study.** MDT will use models and other analytic tools developed for the Highway Reconfiguration Study to define linkages between economic development and transportation.
Desired Outcome	Identification of highway improvement projects with business benefits.
Action B.2	**Identify and address deficiencies in the strategic transportation network.** MDT will identify strategic transportation network deficiencies through dialogue with leaders of growth industries and technical analysis to forecasts of network travel demand. Deficiencies could be addressed through construction, advocacy, or policy changes.
Desired Outcome	Economic development needs addressed in the programming process.
Action B.3	**Consider economic development in evaluating, prioritizing and scoping highway reconstruction projects.** Clear performance criteria for evaluating economic development impacts will be established to prioritize reconstruction projects, with "other things being equal."
Desired Outcome	Economic development a criteria in project prioritization.

Economic Development

POLICY GOAL C	**Support state and local economic development initiatives to maximize new economic opportunities.**
Issues	■ A number of industries are expected to have high growth nationally. In Montana, these industries are small but showing signs of higher than average growth potential. ■ State and local economic development initiatives aimed at business attraction and retention can be supported by transportation investments.
Action C.1	**Support business retention, recruiting, and other related activities of the Governor's Office of Economic Opportunity.** MDT's plans and investments will be reviewed to ensure that they support and enhance Montana's economic development strategy.
Desired Outcome	MDT helps to implement Montana's economic development strategy.
Action C.2	**Establish an economic opportunities program to help fund roadway projects that support business attraction and retention efforts.** A portion of MDT's state highway funds will finance projects selected based upon employment created, income generated, and the leverage of private and other public investment by MDT dollars.
Desired Outcome	Net new income and employment creation.
Action C.3	**Coordinate with and provide support to local economic development initiatives.** When requested, MDT would provide planning assistance, transportation expertise, and other support to local and regional organizations with initiatives to attract new businesses and retain and expand existing business.
Desired Outcome	Transportation infrastructure not a barrier to business location decisions.

Economic Development

POLICY GOAL C	**Support state and local economic development initiatives to maximize new economic opportunities.**
Action C.4	**Identify airport improvements and statewide aviation strategies that will support economic development as part of Montana's continuous statewide aviation planning process.** MDT and Montana airport operators will analyze passenger, freight, and business-related general aviation to identify economic development strategies.
Desired Outcome	Economic development addressed in aviation plan update.
Action C.5	**Provide state-level leadership to evaluate whether there are possibilities for reducing the cost and increasing the frequency and reliability for out-of-state air travel.** MDT, airport operators, industry representatives, and other stakeholders will study industrial trends and market opportunities to develop strategies for ensuring Montana has the air transportation services required for economic diversification.
Desired Outcome	Montana's air transportation services strategy.
Action C.6	**Participate in multi-state and regional initiatives that facilitate international trade by identifying and addressing bottlenecks.** MDT will continue participating in multistate trade corridor initiatives that focus on obstacles to system mobility and reliability.
Desired Outcome	Montana's transportation needs addressed in multistate initiatives.

Economic Development

POLICY GOAL D	**Support the tourism industry through promoting access to recreational, historical, cultural, and scenic destinations.**
Issues	■ The visitor industry is growing and highly dependent on transportation. ■ The condition of rest areas affects the visitor experience.
Action D.1	**Promote tourism through improved visitor rest areas and co-location of travel information centers.** Since 90 to 95 percent of visitors to Montana arrive by car, rest areas are a part of the visitor experience and are prime locations for providing travel information and tourism marketing.
Desired Outcome	Quality visitor experience and increased benefits.
Action D.2	**Support state and local agencies to market tourist travel and tourist routes.** MDT will partner with Travel Montana, the Montana Tourism and Recreation Initiative, and other state and local agencies to enhance the availability of visitor support information and services.
Desired Outcome	Promotion of tourist routes.
Action D.3	**Coordinate with federal agencies, tribal governments, neighboring states, and Canadian Provinces.** MDT will coordinate planning and investment decisions with the appropriate jurisdictions and other state agencies that develop recreational use of land in Montana, which generate increasing and sometimes special travel demands.
Desired Outcome	Coordinated planning.

Economic Development

POLICY GOAL E	**Develop MDT's organizational capacity to support economic development.**
Issues	■ MDT requires a focal point for expertise regarding transportation and economic development.
Action E.1	**Strengthen MDT's capability to support economic development.** Strengthening MDT's capacity will support the ongoing economic development components of the statewide planning process and provide a resource to participate in state and local economic development initiatives as appropriate.
Desired Outcome	Transportation perspective in economic development initiatives.
Action E.2	**Communicate MDT's role in economic development, opportunities for Montana firms to do business with MDT, economic development performance objectives, and associated accomplishments.** MDT will communicate a clear, consistent message regarding the relationship between transportation and economic development and the Department's performance in its economic development role.
Desired Outcome	Effective communications.
Action E.3	**Monitor and evaluate economic development-driven travel demands and assess the investments required to address them as part of the ongoing planning process.** MDT will periodically assess travel demands generated by the state's economic trends.
Desired Outcome	Identification of emerging demand-driven transportation needs.
Action E.4	**Conduct outreach to representatives of mining industries.** MDT will become familiar with mining industries plans and projections to determine if existing transportation infrastructure will support anticipated mining activity.
Desired Outcome	Identification of future mining related travel demand.

Economic Development

POLICY GOAL E	**Develop MDT's organizational capacity to support economic development.**
Action E.5	**Provide technical support and information so that economic development needs are considered in MPO planning, MDT corridor planning, and project development.** MDT will ensure that economic development objectives and economic development-related travel demands are understood and addressed across Montana's business areas.
Desired Outcome	Economic development addressed.

Traveler Safety

POLICY GOAL A	**Reduce the number and severity of traffic crashes on Montana's roadways.**
Issues	■ Safety is a high priority for MDT. ■ Driver behavior is a major determinant of injury rates and needs to be addressed in *TranPlan 21*. ■ Non-engineering solutions are implemented by other state agencies and levels of government. ■ Motorcyclists, pedestrians, and bicycles all have unique needs that must be considered.
Action A.1	**Review and strengthen the procedures for identifying and defining safety deficiencies and needs at the project planning and development levels by establishing a "reconstruction with safety" improvements category.** MDT will enhance the planning-level identification of safety needs and their consideration during project planning and development.
Desired Outcome	Safety deficiencies addressed.
Action A.2	**Conduct a highway safety management self-assessment and implement the recommendations.** MDT will design standards for traffic operations, maintenance, and work zone practices safety. The self-assessment should be forward-looking and address the increased traffic volumes anticipated on the existing system, especially in the faster growing counties.
Desired Outcome	Self-assessment with action plan.
Action A.3	**Implement the 1999 Access Management Project recommendations for approach permits as a priority and the other components of the recommended program.** The implementation of new approach standards will directly reduce the number of accidents on Montana highways. Further, given that the access management program targets growth corridors, the action provides a proactive mechanism for reducing the number of accidents predicted due to travel growth.
Desired Outcome	New approach standards.

Traveler Safety

POLICY GOAL A	**Reduce the number and severity of traffic crashes on Montana's roadways.**
Action A.4	**Consider results of the 2002 Montana Bicycle Safety Study in addressing bicycle safety issues.** The results of the MDT's bicycle safety study can be used to review and revise roadway design guidelines and standards to address safety concerns of bicyclists.
Desired Outcome	Implementation of beneficial recommendations.
Action A.5	**Conduct a requirements definition and feasibility assessment for enabling the current Safety Management System to provide a better tool for managing traveler safety.** The current Safety Management System will be enhanced to ensure that MDT funds are effectively used to accomplish safety policy objectives.
Desired Outcome	Safety measurement information required for policy and management purposes.
Action A.6	**Address safety requirements, including both driver fatigue and personal safety, in updates to the Rest Area Plan.** The role rest areas play in improving highway safety will be factored into the design and operation of current and future facilities.
Desired Outcome	Safety addressed in rest area plan update.
Action A.7	**Conduct a study of pedestrian safety conditions and needs.** MDT will examine alternatives and countermeasures to reduce the number and severity of non-motorist fatalities, and analyze crash data in key pedestrian crash locations.
Desired Outcome	Action plan for improving pedestrian safety.

Traveler Safety

POLICY GOAL B	**Provide leadership and coordinate with other Montana agencies to improve traveler safety.**
Issues	■ Responsibility for traveler safety is split among several Montana agencies. ■ MDT can provide leadership to reduce injury accidents through education and enforcement.
Action B.1	**Establish and maintain high-level statewide inter-agency coordination to improve traveler safety and develop an agenda for action.** MDT will use the existing Interagency Coordinating Council as a mechanism to solicit the participation of appropriate divisions in Montana State and local government.
Desired Outcome	Inter-agency committee action plan.
Action B.2	**Provide leadership and support to implement the results of Action B.1.** MDT will provide senior leadership to facilitate the recommendations developed through interagency coordination.
Desired Outcome	Implementation of interagency committee action plan.
Action B.3	**Continue providing ongoing leadership in air traveler safety.** MDT will continue to lead the voluntary air search and rescue network within Montana, managing safety clinics and training for pilots and other professionals involved in air transportation and conduct airport safety inspections.
Desired Outcome	Continued provision of training and air search and rescue services.

Access Management

POLICY GOAL A	**Improve corridor level access management to preserve the highway system.**
Issues	■ MDT needs to be proactive in implementing access management and consistent in applying access management policies. ■ MDT has not implemented all the tools necessary to preserve corridors. ■ Local jurisdictions need to be encouraged to support access management.
Action A.1	**Establish an MDT Access Management Manual.** A comprehensive document will incorporate results from the 1999 Access Management Project, update the 1992 Access Management Plan, and include design elements and guidelines to represent MDT's policy, administrative, and technical approach to access management.
Desired Outcome	Access management increased.
Action A.2	**Develop and implement approach standards as identified in the 1999 Access Management Project final report.** MDT will continue to develop and implement new approach standards governing the issuance of approach permits, which will involve modernizing the 1983 Approach Standards for Montana Highways.
Desired Outcome	Adoption of new approach standards.
Action A.3	**Establish an Access Management Plan that identifies and helps preserve priority corridors.** MDT will establish a consistent approach to access management in corridors that are now experiencing, or that are forecast to experience, the greatest degradation of level of service.
Desired Outcome	Access management plans in growth corridors.

Access Management

POLICY GOAL A	**Improve corridor level access management to preserve the highway system.**
Action A.4	**Communicate the performance benefits arising from an access management policy.** Local jurisdictions and the general public need to understand the safety, mobility, and financial benefits that Montana will realize through successful access management. Developers, merchants, and others in the business community need to be shown how access management is good for business and economic development.
Desired Outcome	Consistent communication of access management benefits.

Land Use Planning

POLICY GOAL A	**Provide technical support and leadership to encourage local jurisdictions to support transportation corridor preservation and management through their land use planning and development permitting authority.**
Issues	■ The consequences of local land use decisions often affect the demand for transportation. MDT, therefore, is interested in local jurisdictions managing the development review process and performing land use planning that helps preserve transportation corridors to minimize safety and capacity impacts from development. ■ Local jurisdictions have the authority to regulate development. However, outside urban and rapid growth areas, local jurisdictions have limited resources and technical knowledge with which to undertake land use planning. ■ Montana's existing and future land use patterns affect transportation demand and influence the relative attractiveness of different modes.
Action A.1	**Work with local jurisdictions to create a "tool kit" of actions they can take to support corridor preservation through their development review and land use planning authority.** MDT will establish a working group involving local jurisdictions to identify and develop specific tools that can be used by local jurisdictions to support corridor preservation and management.
Desired Outcome	Corridor preservation tool kit for local jurisdictions.
Action A.2	**Work with local jurisdictions in the early identification of urban and rural corridors under development pressure.** MDT will coordinate with local governments to protect the safety and capacity of corridors likely to be under pressure from future development.
Desired Outcome	Identification of growth corridors for corridor preservation and access management planning.

Land Use Planning

POLICY GOAL A	**Provide technical support and leadership to encourage local jurisdictions to support transportation corridor preservation and management through their land use planning and development permitting authority.**
Action A.3	**Continue to support local government transportation planning activities and ensure new urban areas have transportation plans to guide system development.** MDT will ensure support for local transportation planning activities, including data collection and dissemination, development of traffic models, financial and administrative assistance for local transportation plans, and support for the existing multi-agency planning processes.
Desired Outcome	Local transportation planning processes in accordance with industry best practices.
Action A.4	**Maintain MDT's capability to provide land use driven travel demand forecasting for MPOs.** MDT will continue to work with local governments responsible for land use planning and provide technical support to their transportation planning.
Desired Outcome	

Land Use Planning

POLICY GOAL B	**Consistently apply MDT's Systems Impact Action Process to ensure developers equitably mitigate their impacts to the highway system.**
Issues	■ The System Impact Action Process prevents highway level of service degradation. ■ MDT's System Impact Action Process needs enhancements.
Action B.1	**Provide technical support to local governments in developing funding partnerships to accelerate project development.** Because of funding constraints and the short planning horizon for most developers, it is often challenging to ensure that those urban corridors identified by local governments for economic development activities have the infrastructure in place before new businesses open. MDT will develop cost participation agreements with local governments and private developers as opportunities arise and provide technical support for corridor plans.
Desired Outcome	Accelerated project development.
Action B.2	**Explore and develop tools to equitably distribute improvement costs on developing corridors regardless of the sequencing of the developments.** The existing system addresses initial developments, but as system impacts accrue, later developers will likely have to mitigate their impacts. Because an equitable distribution of responsibility is essential, MDT will explore defensible approaches to the distribution of cost responsibility.
Desired Outcome	Impact cost determination tools.
Action B.3	**Provide training and support on application of access management and Systems Impact Action Process to local governments and MDT staff.** MDT will develop training materials, schedule work and information sharing sessions, and coordinate as necessary with the Montana Association of Counties and the League of Cities and Towns.
Desired Outcome	Training sessions and supporting materials.

Bicycle and Pedestrian Transportation

POLICY GOAL A	**Institutionalize bicycle and pedestrian modes.**
Issues	■ Montanans have a strong interest in the provision of, and addition to, bicycle and pedestrian facilities. ■ A successful bicycle and pedestrian program is part of Montana's multimodal strategy. ■ Resources should be targeted in areas where demand exists to avoid overbuilding. ■ Ensuring system continuity is an important element of state and local bicycle and pedestrian planning.
Action A.1	**Continue the MDT Bicycle and Pedestrian program.** The bicycle and pedestrian program includes the following elements. ■ A coordinator to plan and assist with implementation of the *TranPlan 21* goals and actions. This includes coordination with related state and local government planning efforts. ■ A program of training and assistance to the Department staff to address the needs of non-motorized modes. ■ Coordination with related state planning efforts including State Department of Fish, Wildlife and Parks, State Lands, and Department of Natural Resources and Conservation.
Desired Outcome	On-going bicycle and pedestrian programs.
Action A.2	**Work with the Department of Commerce to maintain bicycle-related tourist guides and information.** MDT will combine the identification of tourism-related bicycle routes with tourism-related economic development.
Desired Outcome	Bicycle-related tourist guides.

Bicycle and Pedestrian Transportation

POLICY GOAL A	**Institutionalize bicycle and pedestrian modes.**
Action A.3	**Assist other units of government to provide transportation facilities that encourage or consider use by bicyclists and pedestrians.** MDT will take a more proactive approach in helping urban jurisdictions address their bicycle and pedestrian needs more effectively.
Desired Outcome	Provision of technical support.
Action A.4	**Prepare and disseminate public service announcements addressing bicycle and pedestrian safety.** MDT will increase public awareness that bicycling and walking are modes of transportation in Montana.
Desired Outcome	Public service announcements.
Action A.5	**Consider results of the 2002 Montana Bicycle Safety Study in addressing bicycle safety issues.** MDT is currently conducting a study that directly addresses bicycle safety in response to House Joint Resolution 37. The results of the study will be used to address a number of bicycle safety issues.
Desired Outcome	Implementation of applicable recommendation study.
Action A.6	**Develop an updated bicycle and pedestrian use baseline.** MDT will develop and periodically update a new baseline to improve data collection for policy, planning, and other bicycle and pedestrian related decisions. The baseline will include non-journey-to-work purposes, including recreation and touring.
Desired Outcome	

Bicycle and Pedestrian Transportation

POLICY GOAL B	**Target bicycle and pedestrian improvements to account for urban, rural, and regional differences in current and future use.**
Issues	■ Efforts to promote bicycle and pedestrian mobility in Montana appear best suited to Montana's urban areas and select rural travel corridors. Bicycle and pedestrian mobility serves mainly recreational purposes in rural areas of Montana. ■ The level of highway development necessary for accommodating bicycles and pedestrians should be resolved. ■ At the local level, some communities provide bicycle and pedestrian facilities for recreational purposes. ■ Planning for bicycle and pedestrian improvements needs to be consistent and based on function, demand, and location.
Action B.1	**Identify the most significant bicycle routes designated through metropolitan planning organization and urban area plans and selected rural "touring routes" with the greatest demand or potential demand as the basis for planning and system improvement decisions.** MDT will identify a network of bicycle routes for purposes of public information, planning, and system improvement. This will ensure that any bicycle-related improvements would contribute to an overall system and ensure that the development of bicycle facilities reflects anticipated future demand.
Desired Outcome	Bicycle route identification.
Action B.2	**Establish a consistent planning approach and design guidelines for incorporating bicycle and pedestrian facilities into highway improvement projects.** MDT will establish a series of consistent bicycle and pedestrian facility planning guidelines that will be tied to bicycle routes. These guidelines will need to be flexible enough to allow for the differences in location and use.
Desired Outcome	Bicycle and pedestrian facility planning guidelines.

Bicycle and Pedestrian Transportation

POLICY GOAL B	**Target bicycle and pedestrian improvements to account for urban, rural, and regional differences in current and future use.**
Action B.3	**Consider further bicycle improvements based upon proven use or expected future use.** Objective criteria based on bicycle use and urban-rural distinctions should avoid the over-design of facilities. In some areas there may be a need for bicycle facilities beyond accommodation on an existing shoulder.
Desired Outcome	Criteria and method for determining use.
Action B.4	**Improve bicycle and pedestrian facilities in Montana through incorporation in existing projects.** MDT frequently includes bicycle and pedestrian improvements as part of highway reconstruction on an individual project basis, which results in increased local and user interest in funding these improvements. Unless there is a safety problem, bicycle and pedestrian improvements will be implemented only where they are part of existing or planned project improvements.
Desired Outcome	Highway system that address bicycle and pedestrian needs.
Action B.5	**Make selected bicycle and pedestrian improvements in urban areas as a congestion management and air quality improvement strategy.** Over the 20-year planning horizon, there is some potential for the use of bicycles as part of an overall multimodal strategy for addressing congestion, particularly in Montana's fastest growing counties.
Desired Outcome	Bicycle and pedestrian systems in urban communities.
Action B.6	**Maintain consistent bicycle and pedestrian friendly design and maintenance standards.** As part of its ongoing maintenance management, MDT works to ensure that it addresses the needs of bicycle and pedestrian users.
Desired Outcome	Bicycle and pedestrian needs addressed.

Public Transportation

POLICY GOAL A	**Promote and support increased use of public transportation systems.**
Issues	■ There remains a strong interest in many communities for MDT to continue to promote public transportation. This includes factoring public transportation into highway planning and project design. ■ In those communities experiencing the most growth, there is a strong interest in planning for public transportation and facilitating transportation demand management. ■ Public transportation is not well understood and its benefits are not as easy for the Montana public to identify as the benefits of a highway widening project or the construction of a parking garage.
Action A.1	**Support local promotional/educational programs to publicize public transportation opportunities.** Major emphases of the program will be changing people's attitudes about public transportation, educating them on how to use the available services, and reassuring them of the service's safety, reliability, and convenience.
Desired Outcome	Increased use of public transportation.
Action A.2	**Ensure highway improvements address public transportation needs.** MDT will consider transit infrastructure needs in highway project planning and design. Including public transportation in the initial stages of highway improvement projects makes public transportation an integral part of the area's transportation network and reduces the need for expensive and disruptive retrofits of the street and highway network.
Desired Outcome	Transit needs addressed in project improvements where appropriate.

Public Transportation

POLICY GOAL A	**Promote and support increased use of public transportation systems.**
Action A.3	**Continue to provide state-level funding for transit by providing a fixed amount of funding for rural transit systems "off the top" of Surface Transportation Program funds, and transfer Urban Highway funds to transit at the request of local governments.** MDT will make flexible funding available to rural transit systems. Transit providers must meet the required match for capital funds and to meet operating costs.
Desired Outcome	Flexible funding for transit use.
Action A.4	**Coordinate state planning, urban area and transit system development planning, and management.** These transit plans should offer mechanisms to evaluate transportation demand management and innovative service initiatives in Montana's urban areas. In addition, transit development plans should identify any associated highway improvements necessary for enhancing transit.
Desired Outcome	Increase in public transportation use.
Action A.5	**Assist communities to establish transit systems to meet future travel demands.** MDT will work with the fastest growing communities to proactively plan for transit in those areas in which transit will become a viable element of a multimodal transportation system.
Desired Outcome	Increase in population served by public transportation.
Action A.6	**Monitor and report on transit system performance using the public transportation management system.** MDT will use the public transportation management system, which establishes minimum service goals against which performance and transit needs are measured.
Desired Outcome	Performance monitoring.

Public Transportation

POLICY GOAL B	**Preserve existing intercity public transportation service and encourage/facilitate the development of new services.**
Issues	■ The continued decline in intercity bus service in Montana means that for a majority of communities there are no intercity travel options other than a car. For people with no car, limited resources, and no family to rely on, intercity travel is difficult in many parts of the state. ■ Montanans remain concerned about the future of Amtrak serving the Hi-Line and are interested in identifying opportunities for rail to meet current and future travel demand in other areas.
Action B.1	**Promote the use, and communicate the availability, of Section 5311(f) funds for intercity passenger service.** MDT will inform potential providers of intercity passenger service of the availability of Section 5311(f) funds for eligible projects. MDT's priority in allocation of Section 5311(f) funds is intercity passenger service.
Desired Outcome	Preservation and expansion of intercity passenger services.
Action B.2	**Support the provision of intercity bus service through TransADE.** MDT will make Transportation Assistance for the Disabled and Elderly (TransADE) funds available for intercity service.
Desired Outcome	Preservation and/or expansion of population served.
Action B.3	**Work to improve intermodal passenger facilities.** Many of the State's rail and bus stations are in poor condition. Improvements can make public transportation more attractive and increase its patronage.
Desired Outcome	Improved physical condition of intermodal passenger facilities.

Public Transportation

POLICY GOAL B	**Preserve existing intercity public transportation service and encourage/facilitate the development of new services.**
Action B.4	**Coordinate with Amtrak, the Congressional delegation, and others to facilitate increased use of rail and preserve existing service levels.** MDT will continue to maintain a working relationship with Amtrak to identify state actions that may increase the use of Amtrak and preserve existing levels of service.
Desired Outcome	Increased use of passenger rail.
Action B.5	**Ensure that Montana's interests in maintaining current and expanding passenger rail service are addressed in any national decision-making concerning increased Amtrak service.** MDT will track national initiatives to maintain and increase passenger rail and ensure that Montana's interest in preserving the current service is pursued aggressively.
Desired Outcome	Preservation of existing Amtrak service through federal subsidy.

Public Transportation

POLICY GOAL C	**Work to improve service to social service passengers and the transportation disadvantaged—the elderly, children at risk, low income, and persons with disabilities—through interagency coordination.**
Issues	■ There is concern about the lack of coordination between existing urban, rural, and intercity systems. ■ Although coordination of services can bring more service to users and provide for more efficient use of resources to date, Montana agencies have found coordination difficult to accomplish. ■ Montanans recognize that public transportation plays a social role. The number of people dependent on public transit will increase in the future and a basic minimal level of transportation service should be provided where feasible.
Action C.1	**Improve state agencies and local provider cooperation in funding coordination.** If all state agencies reported expenditures on passenger transportation, MDT could then use this information to identify opportunities for coordinating social service passenger transportation programs.
Desired Outcome	Consistent agency reporting of expenditures on passenger transportation.
Action C.2	**Use TransADE funding as a medium for improved coordination.** Various state, local, and non-profit social service organizations provide transportation services beyond those funded through MDT's administration of federal grants. By improving this coordination, duplication of funding and overlapping functions can be avoided, resulting in the increased utilization of existing equipment, improved service, and a more effective use of public dollars.
Desired Outcome	Coordination in funding and service provision.

Public Transportation

POLICY GOAL C	**Work to improve service to social service passengers and the transportation disadvantaged—the elderly, children at risk, low income, and persons with disabilities—through interagency coordination.**
Action C.3	**Work with the Public Service Commission to facilitate easier entry into passenger service provision (especially Medicaid transportation).** MDT will identify opportunities to reduce regulations, without jeopardizing safety and reliability, and streamline procedures for providing service.
Desired Outcome	Regulatory reform.

Public Transportation

POLICY GOAL D	**Identify and implement transportation demand management actions that will work in Montana.**
Issues	■ Some Montanans are interested in applying transportation demand management techniques such as carpooling, vanpooling, and telecommuting.
Action D.1	**Continue to work with metropolitan planning organizations and urban areas to include demand-side strategies in their plans.** MDT will continue participating in the policy and technical committees of urban area planning processes supporting innovative transportation demand management solutions.
Desired Outcome	Inclusion of transportation demand management in MPO plans.
Action D.2	**Work with other state agencies to develop a transportation demand management program for state government.** MDT participates in and encourages transportation demand management for state employees. State government is the largest employer in Helena and has many single large employment sites that are conducive to transportation demand management.
Desired Outcome	State government transportation demand management program.
Action D.3	**Support the implementation of rural ridesharing.** MDT will support ridesharing programs in rural areas as an approach to meeting basic mobility needs.
Desired Outcome	Rural ridesharing programs.

Policy Papers

- Roadway System Performance
- Economic Development
- Traveler Safety
- Access Management
- Land Use Planning
- Bicycle and Pedestrian Transportation
- Public Transportation

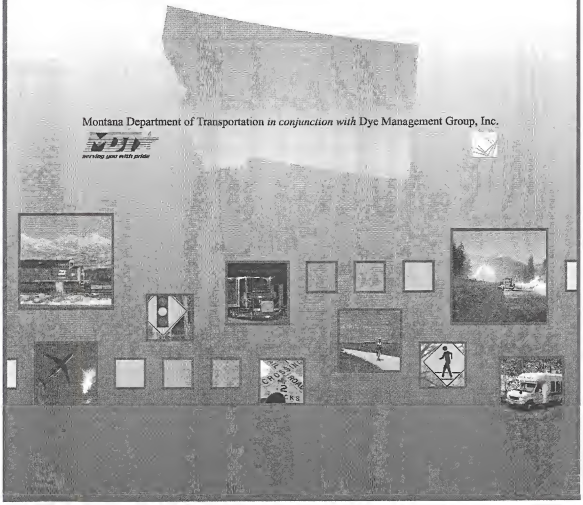
Draft

TRANPLAN 21 UPDATE

2002

Roadway System Performance Policy Paper

December 2002



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Roadway System Performance Policy Paper

Table of Contents

I. Background–Roadway System Performance in Montana 1
   A. The Extent of Montana's Highway System 1
II. Key Roadway Performance Issues 13
   A. Issues Raised by Citizens and Industry Representatives 13
   B. Continued Need to Set Informed Priorities for Roadway System Performance 15
   C. Continued Importance of Pavement Preservation 16
   D. Paving Gravel Roads on the Secondary Highway System 17
   E. Existing Reconstruction Practices 17
   F. Issues Arising From Trends Analysis 19
III. Policy Goals and Actions 21
Appendix: Status and Disposition of Original TranPlan 21 Policy Goals and Actions A-28

I. Background–Roadway System Performance in Montana

This paper is the TranPlan 21 2002 Update to the Montana Department of Transportation's (MDT) policy goals and actions for roadway system performance. This policy paper provides recent background on the current performance of Montana's highway system and the trends affecting the future performance of the system. Key issues concerning the current and future performance of the highway system are described and strategies for addressing them are outlined.

A. The Extent of Montana's Highway System

Montana is one of the most rural states in the nation, covering a large, sparsely populated land area. The highway system plays a central role in allowing the state to function politically, economically, and socially. Three-quarters of all miles traveled in Montana are outside of the State's urban areas. Montana's highway system connects small communities to regional service centers and the major cities to one another and the rest of the nation. In addition, Montana's highway system plays a key role in the National Highway System providing important interstate and international transportation corridors.

The extent of Montana's highway system is summarized in Exhibit I-1 below. There are almost 70,000 centerline miles and 130,000 lane-miles on the state's highway system. The transportation system represents the largest single capital investment in the State of Montana. The challenge for Montana is to identify the most effective strategies for preserving and maintaining this system. Using existing resources most cost effectively is a key objective for MDT because the amount of funding per mile of roadway in Montana will always be relatively low compared to other states. This is because Montana has a large highway system relative to its population.

Although Montana has a relatively high gas tax of 27 cents per gallon, the state ranks 47th in the nation in terms of revenue-dollars per mile of roadway. The state's limited population restricts the potential for generating additional funds. A particular challenge for Montana is funding maintenance activities that are ineligible for federal funds and ensuring that there are sufficient state revenues to meet the match requirements for federal funding.

Exhibit I-1: Montana's Highway System Miles by Functional Classification, 2002

System Classification	Centerline Miles	Total Lane Miles
Interstate	**1,191**	**4,765**
Rural:		
- Principal Arterial	3,755	9,997
- Minor Arterial	3,016	6,111
- Major Collector	7,046	14,023
- Minor Collector	9,006	17,762
- Local Road	44,130	76,392
Subtotal	**66,953**	**124,285**
Urban:		
- Principal Arterial	231	769
- Minor Arterial	228	479
- Collector	302	608
- Local Street	1,842	3,638
Subtotal	**2,603**	**5,494**
Total	**69,556**	**129,779**

Source: MDT Multi-modal Planning Bureau, Dye Management Group, Inc. analysis.

The exhibit illustrates the extent to which Montana is a rural state; fully 92 percent of the state's roadway capacity is in jurisdictions that are designated as rural. In recent years, the expansion of urban areas has transferred a small portion of the total mileage from rural to urban areas. Increases in lane miles will affect future maintenance planning by State and local officials. The State must plan for the current and future availability of resources to maintain the existing system and any increase in the number of lane-miles.

1. Current Roadway Conditions

Although a low population generally translates to low traffic volumes, deterioration of the highway infrastructure is not proportionately distributed. The key factors influencing pavement deterioration include truck traffic, time, and weather. These factors are also the primary causes for deterioration of bridges, culverts, signs, guardrails, etc. Delaying preservation escalates the overall costs for the maintenance and replacement of infrastructure. Montana's highway users pay for preserving and maintaining the roadway network. It is important to note that many maintenance activities are not eligible for federal cost sharing.

With a few notable exceptions, there is adequate capacity to meet current travel demands. Maintaining and preserving the current performance level of the system is an important planning and management challenge for the State.

Montana has seen pavement condition improvements over the past ten years; however, there are many miles with poor structural conditions and a short remaining life. The development of the MDT's pavement management system has provided much needed information about the extent of pavement preservation needs.

2. Pavement Conditions

Pavement conditions are monitored through MDT's Pavement Management System. Several performance measures are used to track pavement conditions, including:

- Ride Index (IRI) – determined by using an internationally applied roughness index in inches per mile, and converting to a 0-100 scale.
- Rut Index (RI) – calculated by converting rut depth to a 0-100 scale. Rut measurements are taken approximately every foot and averaged into one-tenth mile reported depths.
- Alligator Crack Index (ACI) – measured by combining all load associated cracking, and converting the index into a 0-100 scale.
- Miscellaneous Cracking Index (MCI) – calculated by combining all non-load associated cracking, and converting the index into a 0-100 scale.
- Overall Performance Index (OPI) – determined by combining and placing various weighting factors on the IRI, RI, ACI, and MCI figures, and converting the index to a 0-100 scale. The OPI is calculated to provide a single index describing the current general health of a particular route or system.

Exhibit I-2 presents these measured indices for Interstate, and non-Interstate NHS, and Primary roadways in Montana for the last five years.

Exhibit I-2: Interstate Non-Interstate NHS, and Primary Roadway Condition Indices, 1997 – 2001

	1997	1998	1999	2000	2001	Percent Change ('97 – '01)
Interstate						
- Ride Index	79	78	79	80	82	4%
- Rut Index	69	61	69	70	71	3%
- Alligator Crack Index	93	94	93	94	95	2%
- Misc. Cracking Index	86	84	82	87	87	1%
Overall Performance Index	**64**	**61**	**64**	**67**	**68**	6%
Primary (includes Non-Interstate NHS)					NHS/STP	NHS/STP
- Ride Index	73	73	75	76	76/73	4%/0%
- Rut Index	68	59	64	65	63/64	-7%/-6%
- Alligator Crack Index	94	95	96	96	97/97	3%/3%
- Misc. Cracking Index	89	89	86	87	88/89	-1%/0%
Overall Performance Index	**62**	**59**	**62**	**63**	**62/62**	**0%/0%**

Source: MDT, Pavement Management Section Annual Pavement Condition Reports, Dye Management Group, Inc. analysis.
Note: Index descriptions in presented in the text.

- The overall condition of Interstate and Primary roadways in the State has increased over the last five years.
- The recent improvements in pavement condition are the result of MDT's heavy investment in preventive maintenance.

3. Roadway Congestion

MDT measures the congestion on the State's roads using congestion indices and a measure of the level of service of roadway segments. On the rural highway corridors, congestion indices consist of point values ranging from 0 - 100 and are a numerical representation of the Levels of Service (LOS), A through F.

Congestion Index Range	LOS
85 - 100	A
70 - 84	B
55 - 69	C
40 - 54	D
25 - 39	E
0 - 24	F

On the Interstate System in Montana, any segment with a LOS below B is considered congested. On the Non-Interstate NHS, Primary, and Secondary Systems, a LOS of C or below is considered congested.

The 2000 statewide Congestion Index rating for Montana's rural highway system is as follows:

System	Congestion Index	LOS
Interstate	94	A
Non-Interstate NHS	76	B
Primary	80	B
Secondary	92	A

Measurements of the congestion index indicate that, over the last several years, rural roads have remained relatively free of traffic congestion compared to urban roadways. Between 1996 and 1998, the congestion indices for statewide, rural NHS roads, and the statewide, rural primary and secondary roadways remained constant. Local congestion hotspots have been identified throughout the State, and projects are underway to alleviate and reduce congestion where possible. Currently, MDT does not consistently measure congestion in the urban areas on a statewide basis. However, MDT has work underway to monitor urban area congestion.

4. Bridge Conditions

Bridges are a critical part of the State's roadway infrastructure. The temporary closing of these structures reduces capacity on, or can shut down, transportation corridors, pushing traffic volumes onto other roadways less capable to handle the traffic and increasing travel times for system users. In general, MDT inspects each bridge for damage or deterioration at least once every two years. The Department uses the following definitions for identifying bridges requiring attention:

- **Structurally Deficient** – Restricted to light vehicles only, or is closed and requires rehabilitation to re-open.
- **Functionally Obsolete** – Vehicle operations are restricted based upon federal standards that look at a variety of criteria (deck geometry, approach road alignment, etc.).

Exhibit I-3 presents the number and condition of roadway bridges located in Montana.

Exhibit I-3: Change in Condition of Roadway Bridges in Montana, 1995 - 2000

Highway System	Bridges		Structurally Deficient			Functionally Obsolete		
	1995	2000	1995	2000	Percent Change	1995	2000	Percent Change
Interstate	816	844	2	0	-100.0%	208	209	0.5%
NI-NHS	499	510	24	11	-54.2%	35	31	-11.4%
Primary	497	609	16	21	31.3%	41	41	0.0%
Secondary	481	541	34	23	-32.4%	52	47	-9.6%
Urban	60	58	5	6	20.0%	26	19	-26.9%
Local On-System	246	266	22	20	-9.1%	23	11	-52.2%
Local Off-System	1,855	1,859	313	259	-17.3%	524	308	-41.2%
Total	**4,454**	**4,687**	**416**	**340**	**-18.3%**	**909**	**666**	**-26.7%**

Source: MDT Multimodal Planning Bureau, MDT Bridge Management System, Dye Management Group, Inc. analysis.

Note: This Exhibit excludes bridge structures under federal jurisdiction, such as BIA, USFS, BLM, and railroad bridges.

The exhibit illustrates the following key trends:

- Since 1995, the state has reduced the number of bridges either structurally deficient or functionally obsolete by almost 25 percent. However, the majority of these bridges are maintained by local agencies with assistance by the State.
- While local authorities have focused on fixing functionally obsolete bridges (insufficient capacity, etc.) the MDT has devoted more effort to refurbishing or replacing structurally deficient bridges.

Some 25 percent of the bridges are functionally obsolete. Addressing these deficiencies requires a considerable expenditure of funds. Bridge projects tend to be

costly. First steps should include a review of these bridges and prioritizing them for refurbishment or replacement. MDT may also assist local transportation agencies review their functionally obsolete bridges.

5. Overall Use of Montana Roadways

The general characteristics of roadway use in Montana are measured in terms of:

- Daily vehicle miles traveled.
- Daily commercial vehicle miles traveled.
- Number of vehicles registered in Montana.
- Number of vehicles crossing the Montana-Canada border.

6. Daily Vehicle Miles Traveled

Daily vehicle miles traveled (VMT), calculated from measured traffic counts over road segments throughout the state, provides an indicator of the amount of traffic using the State's road network. Overall, Montana's State system handles the vast majority of all passenger and freight-miles of transportation activities for the State.

Exhibit I-4: Daily VMT, 1995 – 2000, in Millions

District	1995	1996	1997	1998	1999	2000	Annual Change
Missoula	6,208	6,113	6,154	6,304	6,400	6,545	1%
Butte	3,924	4,062	4,086	4,329	4,394	4,410	2%
Great Falls	3,411	3,422	3,405	3,488	3,593	3,566	1%
Glendive	2,190	2,070	2,106	2,112	2,082	2,153	0%
Billings	4,214	4,234	4,214	4,174	4,237	4,262	0%
Total	**19,947**	**19,901**	**19,965**	**20,407**	**20,706**	**20,935**	**1%**

Source: MDT, Dye Management Group, Inc. analysis.

Exhibit I-4 illustrates that overall traffic volumes on Montana's roadways have increased by about one percent per year between 1995 and 2000. The areas with the highest growth are within MDT's Missoula and Butte Districts. The high growth is around Missoula and Bozeman while growth has been relatively flat in other areas of the state. The growth in traffic volumes in some urban areas has required the State to fund and deliver transportation projects to increase roadway capacity, as well as increase maintenance of some corridors.

While growth has been consistent over the past five years, Exhibit I-5 below indicates the rate of growth has actually decreased over the last five years compared to the 1990 to 1995 period. Traffic growth throughout the State in the first half of the 1990s totaled almost 19 percent, compared to 5 percent for the second half of the decade.

Exhibit I-5: Change in Daily VMT, 1990 – 2000, in millions

District	VMT (millions)			Percent Change	
	1990	1995	2000	90 – 95	95 – 00
Missoula	4.941	6.208	6.545	25.6%	5.4%
Butte	3.362	3.924	4.410	16.7%	12.4%
Great Falls	2.994	3.411	3.566	13.9%	4.5%
Glendive	1.974	2.190	2.153	10.9%	-1.7%
Billings	3.579	4.214	4.262	17.7%	1.1%
Total	**16.851**	**19.947**	**20.935**	**18.7%**	**5.0%**

Source: MDT, Dye Management Group, Inc. analysis.

These two exhibits also illustrate traffic volume trends from a regional perspective. The western and south central part of the State shows the most growth, while the eastern and northern portions of the State have seen little or no growth over the last five years.

Exhibit I-6 illustrates the split between rural and urban VMT. For the last decade, nearly 80 percent of the daily VMT occurred in rural areas, although the growth rate in VMT in urban areas has historically been slightly higher than in rural area.

Exhibit I-6: Urban/Rural Vehicle Miles Traveled Split, 1990 – 2000

	1990	1995	2000	Percent Change	
				1990 – 1995	1995 – 2000
Rural VMT	13.4	15.7	16.5	18%	5%
Urban VMT	3.5	4.2	4.5	21%	6%
Total	**16.9**	**19.9**	**20.9**	**18%**	**5%**
Rural Percentage	79%	79%	79%	-	-
Urban Percentage	21%	21%	21%	-	-

Source: MDT, Dye Management Group, Inc. analysis.

7. Daily Commercial Vehicle Miles Traveled

Another example of trends in traffic volumes is illustrated by the amount of commercial traffic moving through the State. MDT collects commercial daily vehicle miles traveled statistics on rural Interstate, non-Interstate National Highway System, and Primary System routes. Exhibit I-7 indicates that the growth in commercial traffic has been moderate, about 1.8 percent per year.

Exhibit I-7: Statewide Rural Commercial Daily VMT, 1995 – 2000, in Millions

System	1995	1996	1997	1998	1999	2000	Annual Change
Interstate	1.168	1.157	1.181	1.247	1.337	1.376	3.3%
Non-Interstate NHS	0.624	0.623	0.633	0.632	0.605	0.617	-0.2%
Primary System	0.271	0.273	0.269	0.271	0.261	0.263	-0.6%
Total	**2.062**	**2.052**	**2.084**	**2.150**	**2.204**	**2.257**	**1.8%**

Source: MDT, Dye Management Group, Inc. analysis.

The following trends are highlighted:

- Interstate routes experienced the greatest increase in commercial traffic volumes, while traffic volumes on NHS and Primary systems have actually decreased.
- Overall, commercial volumes total about 10 percent of all miles traveled when compared to data presented in Exhibit I-4.

Exhibit I-8 further illustrates that the growth in commercial traffic has slowed down over the last five years compared to the previous five-year period.

Exhibit I-8: Change in Daily Commercial Daily VMT, 1990 – 2000

System	VMT (millions)			Annual Change	
	1990	1995	2000	90 – 95	95 – 00
Interstate	0.942	1.168	1.376	4.4%	3.3%
Non-Interstate NHS	0.856	0.624	0.617	-6.1%	-0.2%
Primary System	-	0.271	0.263	N/a	-0.6%
Total	**1.799**	**2.062**	**2.257**	**2.8%**	**1.8%**

Source: MDT, Dye Management Group, Inc. analysis.

Commercial traffic increases are attributed to:

- The expansion of the state and national economy.
- Changes in the rail industry and the development of larger unit trains, requiring greater reliance on truck transportation for carrying goods to markets and to intermodal transfer points.
- The passage of the North American Free Trade Agreement.

8. Roadway Safety

Exhibit I-9 presents a few key trends in traveler safety in Montana: accidents, fatalities, and injuries. Over 22,000 accidents were reported in 2000, with just over half occurring in rural areas. Reported accidents increased by 10 percent over the last five years.

Exhibit I-9: Vehicular Fatalities and Injuries on Montana Public Roadways, 1990 – 2000

	1990	1995	2000	Percent Change		
				1990 – 1995	1995 – 2000	1990 – 2000
Accidents*	**17,805**	**21,903**	**22,350**	**23.0%**	**2.0%**	**25.5%**
- Urban	9,641	11,679	10,664	21.1%	-8.7%	10.6%
- Rural	8,164	10,224	11,686	25.2%	14.3%	43.1%
Fatalities	**212**	**215**	**237**	**1.4%**	**10.2%**	**11.8%**
- Urban	12	30	18	150.0%	-40.0%	50.0%
- Rural	200	185	219	-7.5%	18.4%	9.5%
Injuries	**8,210**	**8,013**	**8,135**	**-2.4%**	**1.5%**	**-0.9%**
- Urban	3,223	4,204	4,272	30.4%	1.6%	32.5%
- Rural	4,987	5,964	6,531	19.6%	9.5%	31.0%
Annual VMT†	**8,332**	**9,339**	**9,882**	**18.4%**	**4.9%**	**24.2%**
Fatality Rate‡	**2.54**	**2.30**	**2.40**	**-9.5%**	**4.2%**	**-5.7%**
Injury Rate‡	**98.54**	**108.88**	**109.32**	**10.5%**	**0.4%**	**10.9%**

Source: MDT Planning Division, Traffic Safety Section, Dye Management Group, Inc. analysis.
*Reported accidents. Data is not easily comparable from year to year due to changes in reporting procedures by local authorities.
†In millions.
‡Per 100 million miles traveled.

The following trends highlight traffic and accident statistics over the last ten years:

- Accidents in urban areas have decreased slightly over the last five years; however, in both five-year periods 1990 – 1995 and 1995 – 2000, the number of accidents in rural areas has increased.
- Between 1990 and 2000, fatalities have increased almost 12 percent, while traffic volume (measured in vehicle miles traveled) has increased almost 25 percent. The fatality rate has declined by nearly six percent over the same period.
- Fatality rates increased over the five-year period 1995 – 2000 compared to the 1990 – 1995 period, from 2.30 to 2.40 fatalities per 100 million miles traveled. The fatality rate has increased in line with the volume of traffic (4.2 and 4.9 percent respectively).

9. Future Traffic Volumes

As indicated above, Montana has a highway system that is in good condition and meets today's demands from its users. However, the challenge for Montana is to ensure that the system can meet the demands of the twenty-first century.

Sustaining existing performance levels to meet tomorrow's demands will be a challenge. Montana's population, economy, and associated travel demands are changing. There has been a large growth in vehicle miles traveled in Montana over the past decade. This growth has varied considerably between the different regions of the State. These growth rates are particularly pronounced in the faster growing areas of the

State. The growth rates are due to the overall increase in population and employment in the State, increased visits to the State for tourism, a growth in bridge traffic through the State, and an overall growth in the number of miles driven by each Montanan.

A twenty-year forecast for each of four roadway types: Interstate, Primary and Non-Interstate NHS, Secondary, and Urban roadways, is presented in Exhibit I-10 below. The forecast is based on individual system roadways measured and calculated volume statistics for the last ten years.

Exhibit I-10: 20 Year Forecast of Daily VMT by Roadway System

System	2000	2010	2020	Percent Change 2000 – 2020
Interstate	6,675,000	8,218,000	10,158,000	52%
Primary/NI-NHS*	9,995,000	12,508,000	15,728,000	57%
Secondary	1,978,000	2,576,000	3,370,000	70%
Urban	2,287,000	2,814,000	3,479,000	52%
Total	**20,935,000**	**26,116,000**	**32,735,000**	**56%**

Source: MDT Planning Division
*Primary includes NHS and non-Interstate NHS due to pre-2000 accounting standards.

Exhibit I-11 shows the forecast increase in VMT by MDT district between 2000 and 2020.

Exhibit I-11: 20 Year Forecast of Daily VMT by MDT District

District	2000	2010	2020	Percent Change 2000 – 2020	Percent Total in 2020
Missoula	6,545,000	8,644,000	11,440,000	75%	35%
Butte	4,410,000	5,752,000	7,514,000	70%	23%
Great Falls	3,566,000	4,248,000	5,065,000	42%	15%
Glendive	2,153,000	2,394,000	2,662,000	24%	8%
Billings	4,262,000	5,078,000	6,055,000	42%	18%
Total	**20,935,000**	**26,116,000**	**32,735,000**	**56%**	**100%**

Source: MDT Planning Division.

Exhibit I-12: 20 Year Forecast of Daily Vehicle Miles Traveled by MDT District and Roadway System

District and System	2000	2010	2020	Percent Change 2000 – 2020
Missoula:				
- Interstate	1,542,000	1,957,000	2,485,000	61%
- Primary/NI-NHS*	3,893,000	5,246,000	7,070,000	82%
- Secondary	588,000	829,000	1,170,000	99%
- Urban	522,000	616,000	716,000	37%
Subtotal	***6,545,000***	***8,644,000***	***11,440,000***	***75%***
Butte:				
- Interstate	2,043,000	2,700,000	3,570,000	75%
- Primary/NI-NHS*	1,604,000	1,997,000	2,488,000	55%
- Secondary	380,000	513,000	693,000	82%
- Urban	384,000	541,000	764,000	99%
Subtotal	***4,410,000***	***5,752,000***	***7,514,000***	***70%***
Great Falls:				
- Interstate	820,000	959,000	1,122,000	37%
- Primary/NI-NHS*	1,721,000	2,049,000	2,440,000	42%
- Secondary	456,000	575,000	724,000	59%
- Urban	569,000	666,000	779,000	37%
Subtotal	***3,566,000***	***4,248,000***	***5,065,000***	***42%***
Glendive:				
- Interstate	536,000	593,000	656,000	22%
- Primary/NI-NHS*	1,370,000	1,514,000	1,672,000	22%
- Secondary	213,000	250,000	293,000	38%
- Urban	34,000	38,000	42,000	22%
Subtotal	***2,153,000***	***2,394,000***	***2,662,000***	***24%***
Billings:				
- Interstate	1,735,000	2,009,000	2,326,000	34%
- Primary/NI-NHS*	1,408,000	1,702,000	2,058,000	46%
- Secondary	341,000	409,000	491,000	44%
- Urban	779,000	958,000	1,179,000	51%
Subtotal	***4,262,000***	***5,078,000***	***6,055,000***	***42%***
TOTAL	**20,935,000**	**26,116,000**	**32,735,000**	**56%**

Source: MDT, Dye Management Group, Inc. analysis.
Note: Totals may not add due to rounding.
*Primary includes NHS and non-Interstate NHS due to pre-2000 accounting standards.

The forecast indicates that daily roadway utilization will grow the most in MDT's Missoula and Butte Districts, driven by the growth anticipated in Missoula, Flathead, and Gallatin Counties. VMT growth forecasts for these two districts indicate that:

- The Primary and Non-Interstate NHS and Secondary Highways in the Missoula area will experience nearly double the vehicle miles traveled on a daily basis.

- The Secondary and Urban Highways in MDT's Butte District will double in vehicle miles traveled on a daily basis.
- Overall, the vehicle miles traveled on all highways in the Missoula and Butte Districts will grow by over 70 percent over the next twenty years.

II. Key Roadway Performance Issues

A. Issues Raised by Citizens and Industry Representatives

In the 1995 TranPlan 21 edition, citizens and industry representatives identified a number of issues concerning the current and future performance of Montana's highway system. The issues were described in detail in the 1995 TranPlan 21 edition of *Issue Identification Results*.

The overall public sentiment identified in 1995 was that Montana has an excellent highway system given the State's size, population density, and resources. Public sentiment indicated that the highway system is essentially complete and that the MDT should focus its efforts on preservation and maintenance. The 2002 TranPlan Update public involvement found a continuation of these views; however, MDT's customers and partners also raised a number of issues relating to how MDT can best preserve mobility in faster growing parts of the State.

The general issues identified in 1995 were as follows:

- **Recognition that improvements will be needed in response to growth.** There was recognition that traffic growth is creating the need for improvements in certain corridors and at some intersections. Most frequently noted was Highway 93 between Kalispell and Missoula. However, there was no consensus about the extent to which Montanans wish to choose between adding capacity and managing with a lower level of service.

- **Concern about improvements on low volume roads.** Concern was expressed about the inability to fund improvements on low volume roads, especially those that are gravel. Paving gravel roads remains an issue. Many users of these roads would prefer them to be paved; however, the cost of paving and then maintaining them can be high if the roads are lightly used.

- **Need for access management. Montanans recognized the benefits to system performance of better access management and control in major corridors.** However, participants cautioned against a statewide approach that does not take regional differences into consideration. (This issue area and related land use planning issues are addressed in the "Access Management and Land Use Planning Policy Paper)."

- **Prevention of billboard proliferation.** There was a substantial amount of concern about billboard proliferation, especially along scenic corridors.

- **Desire for the highway system to meet the needs of tourism and other growth industries.** The important role that highways play in Montana's growing tourist industry and in interstate and international commerce was acknowledged. There is a belief that it

is the MDT's responsibility to address this through planning and project development. (This issue area is addressed in the "Economic Development Policy Paper)."

- **Expressed concern for the impact on pavement conditions parallel to abandoned rail lines.** There was concern about the impacts to pavements on the Secondary system and some county roads from rail branch line abandonment.

Generally, the TranPlan 21 2002 Update issue analysis is consistent with these perspectives. The following general conclusions regarding roadway system performance were drawn from the TranPlan 21 2002 Update issue identification:

- **Montanans are Generally Satisfied with the State's Transportation System and MDT's Overall Planning Direction.** The different input mechanisms consistently indicate that MDT's overall policy direction and performance addresses Montanans' priorities. Surveys completed by public meeting attendees and planning newsletter recipients revealed that almost 90 percent of respondents agreed with MDT's overall policy direction: first preserve and maintain the system, with safety improvements, and then expand capacity. Survey respondents would distribute resources in the same priority as MDT does currently: first preservation, with safety, and then expansion.

- **MDT Should Address Economic Development.** Specific issues raised included highway expansion to accommodate growth, high expansion to promote economic development, developer impact fees, improvements to better accommodate tourism, and freight-related needs. This issue area is addressed in detail in the TranPlan 21 2002 Update "Economic Development Policy Paper."

- **Roadway Safety is a Statewide Concern.** Roadway safety issues are a concern across the state. In particular, bicycle and pedestrian safety, motorcycle safety, and increased roadway signage were concerns. This issue area is addressed in detail in the TranPlan 21 2002 Update "Traveler Safety Policy Paper."

- **MDT Should Continue to Improve Communication with Customers.** MDT customers acknowledge that MDT has improved communication but want to see a continuation of this trend. The interest is for more information on highway improvement plans, programs, and project delivery status.

- **The State's Rest Areas Need Improvement.** Rest area level of service was identified at every public meeting as an issue that needs to be addressed in the 2002 TranPlan 21 Update. The 2003-2007 Tourism and Recreation Industry Strategic Plan public meetings echoed those concerns.

- **Trends in the State's Agricultural Industry Are Impacting Roadway System Performance.** Public meeting participants noted that consolidation in the State's agricultural industry has led to increased truck traffic, and consequent wear, on the State's roadways. The 2000 Montana Rail Plan noted that grain dealers and railroads have been building 110-car loading facilities in order to reduce their costs.

- **Montanans Are Concerned About Future Funding For Highway Improvements.** The State's ability to meet matching requirements to obtain future federal funding was an issue raised at several public meetings. MDT management also expressed concern with MDT's ability to fund the State's portion of federally funded projects.

- **Context Sensitive Design is an Important Issue in Some Regions and Needs to be Consistently Employed.** Public meeting participants in Missoula and Great Falls stated that transportation design should be better integrated with communities.

- **MDT Should Continue to Coordinate with Neighboring States and Provinces.** According to the Vision 2005 Task Force on Agriculture, highway transportation regulations among Montana's neighboring states and provinces are inconsistent. Negotiating among states and provinces to standardize regulations should improve the hauling of Montana products. MDT District Administrators also expressed a desire to coordinate planning with neighboring states and provinces.

The financial benefits of Corridor Preservation and advance acquisition of right-of-way were emphasized. Stakeholders and public meeting participants stressed the importance of the advance acquisition of right-of-way in key corridors. An example provided is the Great Falls bypass. Benefits due to reduced costs of right of way and faster project delivery were expressed. In addition, MDT stakeholders believe that MDT should be trying to coordinate with local jurisdictions' development review processes to preserve mobility through corridor management.

B. Continued Need to Set Informed Priorities for Roadway System Performance

Montana has an extensive highway system that MDT must operate, maintain, preserve, and further develop to meet its customers many needs. These many and diverse needs exceeded available funding. One of MDT's important management activities is the allocation of funds between different categories of need to ensure that the roadway system's performance meets the priorities of the system users.

The 1995 TranPlan 21 recognized that the ongoing planning process should provide the mechanism through which competing needs are addressed and performance objectives set for the transportation system. With needs exceeding resources, TranPlan 21 committed MDT to establishing a process for setting overall priorities for resource allocation. This process is called Performance Programming Process (P^3), which represents a big step towards balancing resource allocation between different categories of need based upon the system performance benefits that Montana will gain. The technical analysis of the process relies on using the best available conditions data and trade-off analysis to ensure that dollars are allocated based on MDT's customers' priorities, those projects that will yield the biggest benefits to the users of the highway system are prioritized.

Through P^3, MDT makes investment decisions based on public input, available resources, and system performance levels versus stated goals. A funding plan for each district is based on predicted system performance, anticipated funding, and a specific program mix (such as reconstruction, rehabilitation, and repaving).

Montana's highway users have competing and conflicting priorities. No matter how well MDT manages the highway program, the performance of the system over the next twenty years will depend upon the ability and willingness of Montanans to pay for it. To set informed priorities, it is important that Montanans understand the financial constraints affecting the preservation and development of the system. There are frequent demands for improvements that arguably will facilitate economic development; however, if funded, they would come at the cost of other improvements. Many jurisdictions and transportation interests have their own priorities and agendas for projects that they would like funded. These cannot all be met and they do not necessarily reflect the general interest of the state.

TranPlan 21 is used to set the overall system-level policy priorities for addressing road system needs. The 1995 TranPlan 21 placed emphasis on prioritizing pavement preservation. The resulting benefits have been seen in terms of improved pavement conditions. As MDT continues to refine P^3, some of the issues to address will be at what level to preserve the system and how to balance preservation with new capacity needs. The policy goals coming from this plan update will assist decision-makers in establishing this balance.

C. Continued Importance of Pavement Preservation

Pavement performance is derived from measuring and tracking pavement conditions annually, including cracking, rutting, and ride quality. MDT's pavement management system (PvMS) is used to analyze the actual performance of the pavement after investments are implemented.

MDT's performance objective for pavement is to preserve the pavement conditions on Interstate, NHS, and Primary Systems at existing or higher levels. The ride index, a measure of the quality (smoothness) of the ride as perceived by the highway user, is the primary measure for attaining the performance objective. For each of the highway systems, a performance target has been set:

- Interstate: average ride desirable or superior, and less than 10 percent of the interstate miles are below desirable levels.
- NHS: average ride desirable or superior, and less than 20 percent of the NHS miles are below desirable levels.
- Primary: average ride desirable or superior, and less than 20 percent of the Primary miles are below desirable levels.

The following pavement preservation issues arise from the evaluation of recent trends, existing conditions, and practices as part of the TranPlan 21 technical work.

From the long-range planning perspective, the key issues for pavement preservation are addressed through P^3. These ensure that, at the system level, there is the most effective allocation of available resources to maximize pavement performance. However, at the project programming and development level, it is important that the right types of treatment are performed in the right places. This means that there is a good tie between the allocation of resources and the high priority projects.

D. Paving Gravel Roads on the Secondary Highway System

Almost all the roads on the Secondary Highway System are functionally classified as rural major collectors. In 2000, through Senate Bill 3, MDT became responsible for the maintenance of all paved Secondary Highways. To ensure good pavement maintenance, MDT has worked to extend the pavement management system to these roadways, and continues to improve its maintenance management practices.

MDT can face considerable pressure from users to pave low volume gravel roads on the Secondary Highway System. In many cases, such routes have average daily traffic under 250 vehicles. Given the resources available, there are often other projects in each district that are a higher priority for Secondary Highway System funds. This pressure is now compounded by the fact that, once paved, the roads become MDT's maintenance responsibility. For many counties with extremely limited road maintenance funds, this is an attractive outcome. However, it is not in Montana's highway users' overall interests to pave these roads ahead of other projects. Despite these constraints, as resources allow, roads are paved through Secondary Highway System projects. There are well-defined prioritization guidelines used in each district to rank Secondary projects that are nominated by the counties.

E. Existing Reconstruction Practices

MDT's Geometric Design Standards (approved December 4, 1992) set design standards for highway reconstruction and construction projects. These standards guide the modernization and addition of capacity that occurs as part of reconstruction. Projects are planned and programmed as reconstruction or reconstruction with capacity.

However, many roads are in need of work to meet Montana's design goals. They cannot all be improved immediately and many will not be funded over the next twenty years. Therefore, to use funds effectively, two key issues arise:

- The need to strengthen nomination guidelines to trigger improvements with precisely defined criteria.
- The need to further tie capacity improvements to future traffic volumes.

1. Need to Strengthen Nomination Guidelines to Trigger Improvements

The MDT's geometric design standards recognize that it is not cost effective to spend money evenly over the entire State's system. MDT has further recognized that, to most effectively manage its program, it is necessary to establish nomination guidelines for prioritizing highway projects. These nominating guidelines can be thought of as minimum tolerable conditions. These guidelines determine whether a project is eligible for prioritization for inclusion in the program. If conditions deteriorate below the nominating guidelines, the guidelines can be used to trigger needed improvements and an improvement project can be considered for inclusion in the program. The improvement is planned to the design standards that reflect the optimum condition of the roadways in each system.

MDT can further refine these guidelines to ensure that funds are allocated in the most effective way to accomplish roadway system performance objectives established through P^3. The guidelines for mobility or capacity can be based upon general roadway characteristic's that are unknown to reduce the free flow of traffic. These can include narrow lanes and shoulders, steep and rolling terrain, sharp curves, truck and recreational vehicle volumes, and general traffic volumes. These conditions will differ depending upon the functional role or system. For example, congestion may be more tolerable on the urban system than the interstate or primary system.

2. Need to Consider Tying Mobility Improvements to Future Traffic Volumes

Capacity additions to address mobility not only require an initial investment for construction, but also add to all future maintenance costs by increasing the inventory of lane miles that must be maintained. To avoid adding capacity where additional traffic does not justify it, there is a need to tie capacity improvements to expected traffic growth and modernization needs.

As discussed above, nomination guidelines can provide the basis for identifying projects to address mobility needs. Among the factors that could be included is whether or not the segment or corridor is forecast to exceed a certain volume within the next twenty years. The Congestion Management System is developing a series of performance measures that could be used to track this type of information.

In addition, there are other factors such as safety that are extremely important in considering capacity related improvements. In fact, many projects that result in increased capacity are primarily intended to modernize unsafe, outdated roads rather than add capacity.

3. Need to Explore Ways to More Efficiently Develop Major Reconstruction Projects

In the last few years, MDT has initiated several long corridor-level environmental impact studies (EIS). These studies tend to be long and costly. Further, it is not clear that MDT will be able to fund in the near term all the improvements arising from these EIS's. With preconstruction costs rising, there is a need to consider more efficient ways to determine corridor-level needs.

F. Issues Arising From Trends Analysis

The TranPlan 21 2002 Update analyzed the travel demand trends affecting Montana and the future conditions affecting roadway system performance. These are summarized below.

- **Travel demand growth will be most heavily concentrated in Missoula, Flathead, and Gallatin counties.**

  The economy and population in these counties are forecast to grow at a much faster rate than elsewhere in the state. Analysis conducted and documented in the "Economic Development Policy Paper" is reproduced in Exhibit II–1 below. The analysis indicates that the Flathead, Gallatin, and Missoula Counties experienced strong urbanization growth trends, nearly twice the state average.

Exhibit II–1: Population Changes in Urban Counties and Statewide, 1990 to 2000

	Flathead, Gallatin, and Missoula	Lewis & Clark and Yellowstone	Silver Bow and Cascade	Statewide
Population, 2000	189,200	185,100	115,000	902,200
Percent Change from 1990	26%	15%	3%	13%

Source: NPA Data Services

This means that MDT needs to plan ahead to preserve mobility in the corridors in and through these counties. The existing system will need to accommodate more traffic. This will be important for both the regional and statewide economy.

- **MDT will have to balance resources between where travel demand is growing versus where it is stable or declining.**

  Montana has a large transportation system for MDT to preserve and maintain. Performing the most cost-effective highway preservation and maintenance practices on the entire system limits the resources available to meet system expansion needs. MDT will need to continue to use P^3 to determine at what performance level the system will be preserved and to balance resources between systems and types of need.

- **Maximizing the productivity of the existing system will be critical given the type and location of expected travel demand growth and MDT fiscal constraints.**

  Montana's growth trends will increase travel demand on the corridors into and through the urban centers in Flathead, Gallatin, and Missoula Counties. In Yellowstone County and other urban counties that will grow more slowly, business and development tends to relocate slowly along the arterials into the urban centers. As shown in the "Economic Development Policy Paper," MDT will need to target capacity improvements or system expansion to address these demand trends. However, MDT has a large statewide system to maintain and preserve. Therefore, it will become increasingly important for MDT to plan ahead to address operational issues such as signal control and other traffic management functions that can increase the productivity of Montana's infrastructure. MDT will need to ensure that it is doing the preparatory work including planning and construction to be positioned to implement the types of ITS applications in these corridors that will maximize their productivity.

- **Coordinated investment and planning with local jurisdictions will be of strategic importance for Montana.**

  MDT's success in maintaining mobility and achieving economic development and quality of life objectives is increasingly dependent upon coordinated investment and planning with local jurisdictions. This is a strategic issue for Montana because without effective coordination it will become increasingly costly and take longer to maintain the transportation system. Montana's geography limits the opportunity for new alignments. Coordinated multi-jurisdictional planning is necessary to accommodate future growth effectively so that city streets, new development, and site planning are coordinated with arterial planning and management. While this coordination is now taking place, it is important to note that in the future it will need to take place with jurisdictions that do not currently have much capacity and for whom many of the issues and implementing actions open to them are new. This means that MDT needs to work with local jurisdictions and through the urban area transportation planning processes, to jointly preserve Montana's transportation corridors and plan to maintain mobility.

- **The nature of farm-to-market travel demands is changing.**

  The "Economic Development Policy Paper" notes the trends in the delivery of freight rail services in Montana and the consolidation of grain elevators. The continuation of these trends will result in new farm-to-market travel demands that MDT will need to consider. Some of these trends include longer hauls of grain to rail-head elevators and larger commercial trucks on major collector highways.

III. Policy Goals and Actions

This section outlines the policy goals and actions for addressing roadway system performance issues adopted by the TranPlan 21 Steering Committee.

POLICY GOAL A. – Establish explicit priorities for roadway improvements.

- **First Priority – Preservation of Montana's Existing Highway System**
- **Second Priority – Capacity Expansion and Mobility Improvement**
- **Third Priority – Other Improvements**

This policy goal implemented through the Performance Programming Process (P^3) provides an explicit framework for prioritizing projects and developing the Statewide Transportation Improvement Program. The intent of the policy is not to use all funds solely for preservation projects but to establish the MDT's overall priorities. In implementing TranPlan 21, P^3 establishes a balance between funding these different priorities for roadway improvements using the pavement, bridge, and congestion management systems. Safety improvements are not noted specifically within the priority list, simply because safety is not prioritized before or after other activities. Safety is addressed by MDT in all activities, and therefore is not established within a particular priority. In addition, there is a separate policy paper specifically addressing traveler safety. The following lists the overall roadway priorities established by TranPlan 21:

First Priority - Preservation of Montana's Existing Highway System

The first priority is treatments that reduce the lifecycle cost of Montana roadways because roads that are not preserved in this way will result in:

- Large increases in repair costs.
- Operating cost increases for road users.
- Increases in accident rates.
- Increases in environmental damage.
- Increases in travel delays.

MDT's overall goal is to preserve Interstate, Non-Interstate, and Primary Highway System pavements at desirable or better conditions as defined by P^3, and establish goals for improving Secondary Highway System pavement conditions.

It should be noted that reconstruction projects have many of the same benefits as preservation treatments, including decreased maintenance costs and decreased repair and operating costs.

Second Priority - Capacity Expansion and Mobility Improvement

Maintaining mobility through capacity expansion and operational improvements is needed in certain corridors to manage congestion and maintain levels of service. Capacity needs are typically addressed as part of major reconstruction projects. The TranPlan 21 2002 Update shows that MDT will have capacity needs to address in its most urban counties over the next 20 years. The "Economic Development Policy Paper" identifies capacity needs through urban areas as a key part of MDT's plan to maintain system reliability and support economic development. To maintain mobility in Montana's growing corridors over the next twenty years will require a combination of capacity improvement, corridor management, enhanced traffic operations, and increased use of multimodal solutions.

Third Priority - Other Improvements

These include a number of other types of projects such as traffic signals and rest area improvements.

ACTION A.1. Enhance the Performance Programming Process (P^3) to strengthen the link between policy and planning goals and project selection.

MDT established P^3 as an ongoing mechanism to link policy and planning goals to project selection. This action recognizes that this is an ongoing process and that MDT continues to improve it through each cycle of updates to the construction program, the STIP, and MDT's management systems. The intent of the action is to enhance P^3 to help MDT establish the relative priority at the system level between categories of need such as mobility, preservation, and safety. Through this action, MDT will enhance the process used to assess the impact on different types of system performance depending on the allocation of resources between categories of need. In this way, P^3, which is used to provide information to help allocate resources between different categories of need, will be enhanced.

Level of Effort:

ACTION A.2. Provide and disseminate transportation system performance information.

This action involves MDT maintaining an ongoing communications program to educate and inform its customers, partners, and stakeholders regarding its accomplishments in meeting performance objectives. P^3 provides a mechanism for doing this and the maintenance quality assurance program now being implemented will provide valuable information in this regard. MDT is frequently under public pressure to make investments that would not be good management decisions, whether to "do the worst first" in the areas of pavement preservation or to provide highway capacity improvements that are not justified based on project traffic levels. The action will provide information about the relationship between

system-level investment decisions and system-level performance, which will link investment decisions with performance outcomes.

A continuous communications program that educates the public and transportation stakeholders about needs as well as improvements and successes of the transportation program will help build credibility and cooperation for system-wide strategies. The maintenance quality assurance program that MDT is now implementing can provide a state-of-the-art example of this type of approach and show the relationship between funding levels for maintenance and maintenance levels of service.

Level of Effort:

ACTION A.3. Regularly update the cost allocation study to ensure equity in user fees and include analysis of Secondary Highway System use.

This action involves updating the cost allocation study to ensure equitable fees for highway use. Future updates will address Secondary Highway System use.

Level of Effort:

ACTION A.4. Assist local jurisdictions to improve their pavement management practices and to support their use of pavement management systems.

MDT is working with local governments to improve the collection of data and to support their use of contemporary pavement management practices. The action will help local governments to make better decisions in selecting Urban Highway System preservation projects and in spending their funds off-system.

Level of Effort:

POLICY GOAL B. – Preserve mobility for people and industry in Montana.

This policy goal recognizes that to maintain the quality of life and to support a productive economy Montana needs to maintain mobility. The intent of the policy is to provide a goal to guide MDT's planning, investment, and operating decisions. It is recognized that financial resources need to be targeted to where they are most cost-effective. At the statewide level that involves considering both the role of a highway in the overall transportation system and the use of that highway by people and industry.

ACTION B.1. Establish criteria (goals and guidelines) to determine when to add capacity as part of reconstruction projects.

Applying such criteria will help the MDT use technical data and expertise to justify widening rather than other means of maintaining mobility which are less dependable. In some cases, widening will be justifiable based upon safety alone or safety combined with traffic volumes. The specific criteria can be used to provide guidelines for categorizing projects in the project selection process.

Level of Effort:

ACTION B.2. Establish and prototype a process and guidelines for developing corridor-level strategies that address reconstruction needs.

This action addresses major reconstruction projects needed to rebuild highways that can no longer be cost-effectively preserved through pavement preservation projects and/or needed to improve capacity to accommodate increased travel demands or address safety problems. In both cases, the highway is rebuilt to MDT's current geometric design standards. Regardless of whether the primary driver for the project is reconstruction or mobility, MDT has been initiating long corridor-level environmental impact studies (EIS). These studies tend to be long and costly. Further, it is not clear that MDT will be able to fund in the near term all the improvements arising from these EIS's. The intent of this action is to establish a more effective process for determining, prioritizing, and staging reconstruction projects primarily driven by the need to rebuild old highways.

The action will involve convening a working group composed of representatives from MDT Districts, the Engineering Division, FHWA, and the Planning Division to develop an improved process and methodology for determining corridor-level reconstruction needs and advance planning strategies such as access management, advance acquisition of right-of-way, and short term operational improvements. The intent of the action is to prototype a corridor strategy as a "proof of concept." The lessons learned would then be used to develop guidelines for application statewide.

Level of Effort:

ACTION B.3. Establish and implement proactive corridor preservation in corridors forecast to have capacity constraints over the next twenty years.

This action will enable MDT to maximize the productivity of the State's existing highway system and reduce the cost of future highway improvements. The action will also reduce the time it takes to develop and build projects. To implement the action, it will be necessary to evaluate the tools that are available for corridor preservation. These include a variety of right-of-way actions in addition to outright fee simple acquisition, access management, encouragement of local jurisdictions to enact setback ordinances, and other corridor management approaches.

Level of Effort:

ACTION B.4. Inform local planning and development officials of the State's desire to preserve key transportation corridors, encourage and assist local jurisdictions to address right-of-way preservation in local land use plans and access management programs, and support MDT objectives for these transportation corridors.

This action involves working with local jurisdictions to ensure that their decisions do not impact corridor right-of-way preservation and to establish a coordinated approach to supporting the future development of Montana's major transportation corridors. Through

this action, MDT will provide technical assistance and advocacy to local jurisdictions to encourage them to become active partners in corridor preservation.

Level of Effort:

ACTION B.5. Pursue advanced acquisition of right-of-way (fee simple or less than fee simple) on highways that are currently congested and forecasts indicate will be congested in the next twenty years.

While it is difficult to set aside funding for right-of-way acquisition, particularly in the face of critical needs for preserving the physical infrastructure, the life cycle cost will be less because the right-of-way will be acquired at lower cost than it would be after development is allowed to occur. In addition, acquisition costs in high growth areas will increase dramatically.

Level of Effort:

Action B.6. Develop a Context Sensitive Design toolkit to support project development.

This action would involve developing a series of conceptual design or illustrations of design solutions that address parking, community character, pedestrian accommodation, bicycle facilities, wild life crossing and traffic calming that are applicable to Montana's different environments. These would be tools to aid dialogue and discussion during project scoping and the early stages of design. The intent of the action is to provide real world examples of context sensitive design applications that have been used in Montana and comparable situations with beneficial outcomes.

Level of Effort:

POLICY GOAL C. Improve the productivity of the roadway system.

This policy goal is intended to maximize the productivity of Montana's transportation system. This can be accomplished by increasing the numbers of people and the value of commodities that can travel through the existing or the improved system. The intent is to design, manage, and operate the transportation system so that the maximum return in terms of throughput of people or goods is realized in the major corridors. This puts Montana's capital investment in roadways to its most productive use. The actions that address this policy include ensuring that roadways can effectively accommodate public transportation, using ITS to improve productivity, and increasing MDT's traffic operations capacity.

ACTION C.1. Include consideration of public transit needs in updates to the Geometric Design Standards and identify criteria and locations for transit supportive design.

The technical analysis undertaken as part of TranPlan 21 indicates that current public transportation is not likely to change the need for capacity improvements. In some parts of the State, population growth and the related increase in travel demand will result in needs

for capacity improvements over the next twenty years. Rising population will increase the demand for transit and automobile use and will create more potential for modal trade-offs. This action establishes options for including consideration of how to accommodate public transportation most effectively on Montana's highways as demand for it increases and how to provide infrastructure that supports modal trade-offs and an increase in ride sharing.

To identify criteria and locations for transit supportive design, future transit use of the highway system must be anticipated in the criteria and guidelines for project development. This will require working with transit system operators to identify any high volume locations where bus turnouts or other transit supportive design features are justified. This will also include locating park-and-ride or park-and-pool lots to help reduce vehicular volumes on routes that are forecast to carry high peak hour, single occupant vehicle volumes.

Level of Effort:

ACTION C.2. Identify and deploy cost-effective Intelligent Transportation Systems applications to improve safety and system productivity.

In considering this policy goal, it is important to note that TranPlan 21 is a twenty-year plan. In this time frame, intelligent transportation system applications will continue to be developed, tested, and deployed nationally. MDT has a number of ITS applications in place and under development that positively affect travelers and the transportation system. Some commercial vehicle weigh stations are equipped with weigh-in-motion devices and pre-clearance equipment allowing trucks to bypass the stations, thereby enhancing the efficient movement of goods and the enforcement officer's abilities to quickly and accurately assess the safety and credentials of each truck. Traveler information is provided through the Department's web page, toll-free phone number, highway advisory radio, and roadside variable message signs. Such information provides advanced warning of hazards and delays, reducing the impact of weather, construction, and highway incidents.

While many of the intelligent transportation system solutions may not appear applicable to Montana today, ITS can reduce construction costs and improve the productivity of the transportation system. For example, a number of existing, current, and emerging technologies offer potential benefits by either enhancing existing applications or deploying of new ones. Urban signalization can be improved to increase the flow of vehicular traffic, automated de-icing systems can be used to de-ice bridges, and rural transit providers can use scheduling software to automate scheduling and billing. This action directs MDT to make better use of advances in technology to improve the productivity and safety of the transportation system.

Level of Effort:

ACTION C.3. Encourage the metropolitan planning organization areas to include enhanced traffic control and management systems in their long-range plans.

This action is intended to encourage metropolitan planning organizations to address traffic operations and management in their planning. This is an area where closer coordination between jurisdictions can significantly improve the operation of the roadway system.

Level of Effort:

ACTION C.4. Strengthen MDT's traffic operations capability to reduce delay and improve travel times through better traffic management.

This action recognizes that in Montana's most heavily traveled, non-Interstate corridors travel volumes will grow and there will be an acute need to install, manage, and maintain advanced traffic management and control technologies. Currently, MDT has very limited capability to ensure that its many traffic signals have optimal timing and coordinate with city operated signals. The number of signals, their technical complexity, and the potential to use these technologies to improve traffic operations, and hence system productivity, will increase considerably. This action recognizes that building this capability at MDT will represent a cost-effective approach to maintaining mobility and addressing travel demand growth.

Level of Effort:

Appendix:
Status and Disposition of
Original TranPlan 21 Policy Goals and Actions

TranPlan 21 Policy Goals and Actions	Status	Disposition in TranPlan 21 2002 Update
POLICY GOAL A: Establish Explicit Priorities for Roadway Improvements.	Retained, on-going.	Retained as Policy Goal A.
Action A.1. Establish a process for ensuring project selection reflects policy and planning goals.	Implemented, retained as on-going action.	Updated to reflect current practices as Action A.1.
POLICY GOAL B: Systematically Modernize Montana's Highway Infrastructure.	Retained, on-going.	
Action B.1. Continue to use the existing Geometric Design Standards for preserving and developing the highway system.	Action retained on-going.	Action restated to provide greater specificity as Action B.1.
Action B.2. Establish criteria (goals and standards) to be used to determine reconstruction needs and whether to add capacity.	Action not implemented.	Action restated to provide greater specificity to guide implementation as Action B.1.
Action B.3. Establish and implement proactive right-of-way preservation in corridors forecast to have capacity constraints over the next twenty years.	Retained and improved.	Retained and strengthened as Action #.
Action B.4. Inform local planning and development officials of the state's desire to preserve these corridors and the extent of local responsibilities in this regard.	Retained, on-going.	Retained and strengthened as Action B.4.

TranPlan 21 Policy Goals and Actions	Status	Disposition in TranPlan 21 2002 Update
Action B.5. Encourage local jurisdictions to address right-of-way preservation in local land use plans and any access management programs.	Retained, on-going.	Incorporated into Action B.4.
Action B.6. Establish and fund a program, if necessary, for acquisition of right-of-way on highways that are currently congested and TranPlan 21 forecasts indicate will be congested in the next twenty years.	Retained.	Strengthened as Action B.5.
Action B.7. Use the Pavement, Maintenance, and Bridge Management Systems to coordinate maintenance work with other construction work.	Not retained.	Not a planning action. Issue area addressed by MDT's business planning.
POLICY GOAL C: Enhance the Multimodal Role of the Roadway System.	Incorporated into Action C.1.	
Action C.1. Include consideration of public transit needs in updates to the Geometric Design Standards.	Retained.	Retained as Action C.1.
Action C.2. Use the Congestion Management System to identify corridors where public transportation could reduce the need for capacity improvements.	Not retained.	The intent of the original action is addressed through the planning process. The Congestion Management System is used to identify congested areas.
Action C.3. Identify criteria and locations for transit supportive design.	Improved.	Incorporated into Action C.1.

TranPlan 21 Policy Goals and Actions	Status	Disposition in TranPlan 21 2002 Update
POLICY GOAL D: Identify and Deploy Cost-Effective Intelligent Transportation Systems Applications To Improve Safety and Capacity.	Updated and incorporated into policy goal C.	New Policy Goal C. addresses ITS, under Maximize the Productivity of the Transportation System.
Action D.1. Develop the MDT's intelligent transportation system plan as the basis for evaluating, and where cost effective, deploying advanced vehicle technologies in lieu of highway system improvements to improve safety and capacity.	Updated to reflect completion of MDT's ITS plan.	Updated as Action C.1 Deploy ITS, where cost effective, to maximize the productivity of the transportation system.
Action D.2. Encourage the metropolitan planning organization areas to include consideration of intelligent transportation systems in their long range plans.	Updated.	Updated as Action C.2.
POLICY GOAL E: Preserve highway pavement conditions at existing or higher levels on the interstate and primary system. Establish goals for improving secondary system pavement conditions.	Restated.	Addressed through Action A.2.
Action E.1. Ensure that the Pavement Management System is used as a planning, program development, and engineering tool.	Completed.	Action completed.
Action E.2. Ensure use of Pavement Management System is institutionalized.	Completed.	Action completed.
Action E.3. Develop ways to evaluate techniques and materials through the management system to ensure long-term performance.	Not retained.	Issue area and specific action more appropriately addressed through the Strategic Business Plan.

TranPlan 21 Policy Goals and Actions	Status	Disposition in TranPlan 21 2002 Update
Action E.4. Use the Pavement Management System to define strategies and funding levels that will maintain existing performance.	On-going.	Not retained, action is addressed on an on-going basis through P^3.
Action E.5. Monitor and determine the impacts of the North American Free Trade Agreement upon Montana's transportation facilities.	On-going.	Incorporated into analysis performed under Action A.3.
Action E.6. Regularly update the cost allocation study to ensure equity in user fees and include analysis of secondary system use.	Retained.	Action retained as Action A.3 under Policy Goal A as part of preservation policy.
Action E.7. Do not increase the MDT's maintenance responsibilities.	Not retained.	Issue area and specific action more appropriately addressed through the Strategic Business Plan.
Action E.8. Use the Pavement Management System to assist local jurisdictions to understand their preservation needs.	Partially implemented.	Action retained and improved as Action A.4 under Policy Goal A as part of preservation policy.
Action E.9. Establish maintenance standards and goals to complement the Geometric Design Standards.	Not retained.	Issue area and specific action more appropriately addressed through the Strategic Business Plan.
Action E.10. Prioritize system preservation and maintenance.	On-going.	Not retained as a separate action. Incorporated into Action A.2.
Action E.11. Use the Bridge Management System as a planning, program development, and engineering tool.	Completed.	Action completed.
Action E.12. Provide and disseminate transportation system preservation and maintenance information.	On-going.	Incorporated into Action A.4 under Policy Goal A as part of preservation policy.

TranPlan 21 Policy Goals and Actions	Status	Disposition in TranPlan 21 2002 Update
POLICY GOAL F: Improve Construction and Maintenance Techniques and Materials	Not retained.	Issue area and specific action more appropriately addressed through the Strategic Business Plan.
Action F.1. Continually review maintenance operational procedures for efficiency and effectiveness improvements.	Not retained.	Issue area and specific action more appropriately addressed through the Strategic Business Plan.
Action F.2. Review procedures for testing and accepting maintenance materials to ensure quality materials.	Not retained.	Issue area and specific action more appropriately addressed through the Strategic Business Plan.
Action F.3. Utilize the Maintenance Review Section and the Construction Review Section, through the Materials Bureau, to further review the problem of poor aggregates and availability throughout the state.	Not retained.	Issue area and specific action more appropriately addressed through the Strategic Business Plan.
Action F.4. Review department procedures for testing and accepting new materials and procedures developed through research and development.	Not retained.	Issue area and specific action more appropriately addressed through the Strategic Business Plan.
Action F.5. Continue ongoing communications processes with contractors and materials suppliers to improve results.	Not retained.	Issue area and specific action more appropriately addressed through the Strategic Business Plan.
Action F.6. Continue efforts to review bidding procedures to determine if there are any impediments to implementation of new methods or materials.	Not retained.	Issue area and specific action more appropriately addressed through the Strategic Business Plan.
Action F.7. Establish a task force including contractors and suppliers to review the bidding situation.	Not retained.	Issue area and specific action more appropriately addressed through the Strategic Business Plan.

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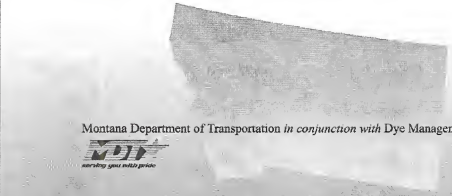
TRANPLAN 21 UPDATE

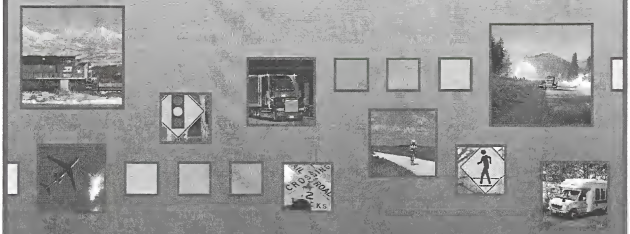
2002

Economic Development Policy Paper

December 2002



Montana Department of Transportation *in conjunction with* Dye Management Group, Inc.



Montana Department of Transportation

Economic Development Policy Paper

Table of Contents

Executive Summary E-1
I. Introduction 1
A. Background 1
B. Changes Since the Original TranPlan 21 2
II. Strategic Considerations and Trends and Their Implication for Transportation and Economic Development 4
A. Geography 4
B. Population Trends 8
C. Economic Trends Through the 1990s 14
D. Forecasts of Future Growth 20
III. Economic Development Issues 34
A. Issues Raised by the Public, Stakeholders, and Industry Representatives 34
B. Economic And Growth Issues Raised By Technical Analysis 36
IV. Policy Goals and Actions 39

Attachment A: Methods Used to Estimate Future Output of Commodity Industries

Attachment B: Status and Disposition of Original TranPlan 21 Goals and Actions

Executive Summary

This document presents the Executive Summary to the TranPlan21 2002 Update Economic Development Policy Paper.

A. Strategic Trends

1. Population

a. Trends

- Low population density.
- Low and uneven population growth.
- Population growth is concentrated in a few counties.
- Growth trends continue to favor western Montana.

b. Transportation Implications

- For most of the State, travel demand and population growth will not create congestion at the statewide or regional levels.
- Montana counties experiencing the bulk of the State's population growth will continue to experience reduced service levels on their arterial system.
- Aging population will increase the importance of public transportation, age-related safety provisions, and other strategies for meeting the needs of the elderly.
- In large parts of Montana, Montanans will have to drive further to access services.
- Montanans will be driving longer distances to work as businesses need to recruit over a larger geographic area.

2. Economic Trends

a. Trends

- Decreasing employment in forest products, farming, mining, and manufacturing.
- Increased productivity in basic industries.

- Services continue to be the growth sectors.
- Tourism and visitor industry will remain strong.
- Changes in the transportation sector reflect changes in Montana's population and economy.

3. Forecasts of Future Growth

a. Trends

- Population is forecast to grow at the national rate.
- Montana will continue to age faster than the U.S. as a whole.
- Population and employment growth will be concentrated in the most urban counties.
- Population will continue to shift from east to west.
- Statewide employment is forecast to grow slowly, but employment and income from services will grow faster than the national rate.
- Economic forecasts indicate growth in the value of bulk commodities to be shipped out of the State and an increase in manufactured products that are likely to be trucked or flown out of the State.
- Economic growth and potential for diversification will be concentrated in the growing parts of Montana.
- Service industry growth will generate increased demand for air travel and increase traffic in parts of the State.
- The Port of Sweet Grass will continue to dominate Montana's international exports.

b. Transportation Implications

- The transportation system must continue to meet the needs for shipping high-volume, low-value commodities.
- Montana will remain heavily dependent on rail for shipping bulk commodities.
- Economic diversification and service sector growth will increase demand for truck transportation.
- Intermodal package delivery will be required by growth industries.
- Increased air travel will be required to deliver producer services and increased regional travel will be demanded to deliver and consume services.

- Reliability as opposed to journey time will remain key performance factors for just-in-time delivery.

B. Economic Development Issues

1. Issues Raised by the Public, Stakeholders, and Industry Representatives

a. MDT's Role

- Economic development should become a factor in MDT's transportation investment decisions.
- MDT needs to produce more detailed economic impacts and benefits studies.
- Montanans' top priorities for the MDT role in economic development are:
  - Improving commercial air service to Montana.
  - Funding projects to boost business relocation to Montana.
  - Maintaining or updating Montana's existing transportation system.
- In eastern Montana, some citizens desire to retain existing and promote new freight rail service to support the eastern Montana economy.
- Some citizens want two-lane highways to be expanded to four lanes to attract business.

b. Tourism

- MDT should give short-term consideration to accommodate visitors and residents during Lewis and Clark Bicentennial.
- Better directional signage would help tourism.
- Rest areas need to be open year-round and should offer more amenities such as visitor information kiosks and Internet access.
- A scenic byway program promoting Montana's uniqueness could attract tourism and more federal funding.

2. Economic and Growth Issues Raised by Technical Analysis

- The greatest transportation barrier for economic development in much of Montana is distance to markets rather than a lack of infrastructure.
- Highway investments can best support economic development by improving system reliability.

- Montana's basic industries are heavily dependent on the existing transportation system, that is motor carrier and rail services.
- Montana has a strong policy interest in the preservation of economic rail services.
- The modal implications of economic growth trends are the increased importance of:
  - Package delivery and highway freight.
  - Air/highway intermodal freight.
  - Air transportation service.
- Through planning, investment, and policy action, Montana will need to ensure that new requirements for motor carriers, air transportation, and intermodal services are addressed.
- Growth will be concentrated in the most urban counties which will require corridor planning and management.

C. Policy Goals and Actions

The actions that MDT can take to support economic development are as follows:

- **Supportive actions.** These are actions to help retain the existing foundations of the economy by preserving the efficient operation of the current system.
- **Reactive actions.** These are actions that are demand-driven. They respond to new needs created by the ongoing economic transitions that Montana is experiencing.
- **Proactive actions.** These are actions to maximize new economic opportunities such as investing in strategic improvements to the transportation system and supporting state and local economic development initiatives to generate economic diversification.
- **Informational actions.** These are actions that clarify and communicate what transportation investments can and cannot accomplish in support of economic development.
- **Institutional actions.** These are the organizational actions necessary for MDT to strengthen its capacity to support economic development.

The roles that MDT can take to support economic development fall into the following three categories:

- Investments in transportation infrastructure.
- Policy support and advocacy.
- Technical support, administration, and coordination.

The following policy goals and actions are considered for inclusion in the TranPlan 21 2002 Update.

POLICY GOAL A: Preserve the efficient functioning of the transportation system used by Montana's export-oriented ("basic") industries to access regional, national, and international markets.

Action A.1: Work with Montana industry and shippers on a continuing basis to identify infrastructural, regulatory, and administrative barriers to their efficient use of the transportation system. (Page 40)

Action A.2: Use input from A.1 and technical analysis to identify the freight mobility needs of Montana's basic industry on the segments of the state highway system where growth is forecast and specify strategies for addressing these needs. (Page 40)

Action A.3: Continue to provide state-level leadership and participate in regional initiatives to increase the productivity of the motor carrier industry. (Page 40)

Action A.4: Conduct quarterly meetings with rail industry representatives, monitor developments in the industry, and work with the industry where possible to preserve the existing rail system. (Page 41)

Action A.5: Update the state rail plan to identify potential highway and rail service impacts arising from structural change in the rail industry, and define governmental actions to address them that will support economic development. (Page 41)

Action A.6: Provide technical support to Montana communities and airport operators to preserve the federal Essential Air Service program in cooperation with the Governor's Task Force. (Page 42)

POLICY GOAL B: Monitor and address capacity needs arising from Montana's economic growth trends.

Action B.1: Specify strategic economic development transportation linkages based on emerging travel demands and incorporating findings from the Highway Reconfiguration Study. (Page 42)

Action B.2: Identify and address deficiencies in the strategic transportation network. (Page 43)

Action B.3: Establish economic development as an evaluation consideration for prioritizing and scoping highway reconstruction projects. (Page 43)

POLICY GOAL C: Support state and local economic development initiatives to maximize new economic opportunities.

Action C.1: Support business retention, recruiting, and other related activities of the Governor's Office of Economic Opportunity. (Page 44)

Action C.2: Establish a transportation economic opportunities program to help fund roadway projects that support business attraction and retention efforts. (Page 45)

Action C.3: Coordinate with, and provide support to, local economic development initiatives. (Page 46)

Action C.4: Identify airport improvements and statewide aviation strategies that will support economic development as part of Montana's continuous statewide aviation planning process. (Page 46)

Action C.5: Provide state-level leadership to evaluate possibilities for reducing the cost and increasing the frequency and reliability for out-of-state air travel. (Page 47)

Action C.6: Participate in multi-state and regional initiatives that facilitate international trade by identifying and addressing bottlenecks in Montana. (Page 47)

POLICY GOAL D: Support the tourism industry through promoting access to recreational, historical, cultural, and scenic destinations.

Action D.1: Promote tourism through improved visitor rest areas with travel information centers. (Page 48)

Action D.2: Support state and local agencies in marketing tourist travel and tourist routes. (Page 48)

Action D.3: Coordinate with federal agencies, tribal governments, neighboring states, and Canadian provinces to provide tourism in Montana. (Page 49)

POLICY GOAL E: Develop MDT's organizational capacity to support economic development.

Action E.1: Strengthen MDT's capability to support economic development. (Page 49)

Action E.2: Communicate MDT's role in economic development, publicize the opportunities that Montana firms have to do business with MDT, and provide economic development performance objectives and associated accomplishments. (Page 49)

Action E.3: Monitor and evaluate economic development-driven travel demands and assess the investments required to address them as part of the ongoing planning process. (Page 50)

Action E.4: Conduct outreach to representatives of mining industries in Montana. (Page 51)

Action E.5: Provide technical support and information so that economic development needs are considered in MPO planning, MDT corridor planning, and project development. (Page 51)

I. Introduction

This policy paper describes the potential policy goals and actions that Montana Department of Transportation (MDT) could implement to support the development of Montana's economy. They will be considered for adoption as part of the 2002 TranPlan 21 Update process. This policy paper updates and replaces the Economic Development and Freight Mobility policy papers that were adopted in 1995 as part Montana's long-range multimodal transportation plan, TranPlan 21.

The policy paper is organized into the following sections:

II. Strategic Considerations and Trends and their Implications for Transportation and Economic Development. This section presents the result of a technical assessment of Montana's economic trends and their implications for MDT's role in transportation.

III. Economic Development Issues. This section lists the most important economic development issues for MDT to consider when planning, investing in, and operating elements of Montana's transportation system. These issues are identified through technical analysis and a program of public and stakeholder input.

IV. Policy Goals and Actions. This section lists the potential range of actions that MDT could take to address issues raised by the technical analysis and stakeholder input.

A. Background

MDT's current plan supports economic development by recognizing that Montana's economy has long been dependent on agriculture and natural resources. The transportation system supports this economy by providing the infrastructure through which major commodities such as grains, livestock, lumber, natural gas, oil, coal, and copper are exported from the state. Over recent decades, the national and Montana economies have been changing with the introduction of new technologies and production methods, the establishment of small manufacturing industries, and the increasing importance of both household and business demands for services.

In 1995, the initial TranPlan 21 recognized these trends, and observed that Montana faced significant transportation challenges that varied by region. For example, in western and southwestern Montana, there was a growing demand for transportation services to support the new service economy. Declining populations and slow economic trends in the eastern and north-central regions of Montana posed challenges to the State in maintaining the quality of the transportation system.

B. Changes Since the Original TranPlan 21

Findings in the original TranPlan 21 were based on trends in the early 1990s. Most apply today, but changes have occurred in the second half of the decade. Below are key extracts from the initial document that still apply, amended where appropriate:

- Montana's traditional economic base is not going away, and existing industries will continue to generate demands for bulk transportation services. This remains true today, but it is important to note that demand and prices were uneven for some of the State's key mining resources. In addition, automated production processes have enabled Montana industries to maintain or increase output while reducing employment and wages. Automation of production maintains the importance of the transportation system for shipping commodities although it reduces employment and income in the regions of the State where these industries are dominant. This, in turn, reduces travel demand for both the highway system and for air transportation service.

- Trends suggested more value-added production from Montana's resource base, particularly the production of wood products. This trend may lead to diverting a portion of rail demand for bulk commodities to truck demand for smaller-sized, but higher-valued goods. In the case of lumber, despite the emergence of the log-home industry in the Bitterroot Valley, there appears to have been limited increase in truck traffic of value-added wood products. This is mainly because all segments of Montana's wood products industry are declining. The past year saw production decline at most of the State's wood processing facilities. Production of lumber and plywood in Montana are at the lowest levels in the State since the mid-1980s. The estimated annual lumber production in 2001 is just over 1.1 million board feet, a 6 percent decline from 2000; and plywood production fell to an estimated 555 million square feet in 2001, a 4.5 percent decline from the previous year. Accordingly, gross state product generated from lumber and wood products declined by 38 percent in real value between 1990 and 1999. However, growth in other types of value-added production such as specialty grains that require product identification will generate new travel demands.[1]

- Though wood products was the largest manufacturing industry in Montana, the manufacturing sector appeared to be diversifying, led by the growing industries of petroleum and coal products, furniture and fixtures, instruments, and apparel. Trends through the 1990s reinforce this finding.

- Manufacturing was also decentralizing from urban to rural areas, indicating truck traffic volumes will increase on Montana's rural highways, particularly in the southern part of the State, near metropolitan areas.

[1] Sources: Bureau of Economic Analysis, U.S. Department of Commerce; and Montana Economic Outlook Seminar, 2002, University of Montana.

- Services grew rapidly in Montana from the mid-1970s to the early 1990s, even at times when Montana's traditional resource industries were stagnant. Services continued to grow through the 1990s.
- Tourism to Montana grew from the mid-1980s as expected, though upswings and downswings were envisioned. Montana's visitors primarily come by car, leading to concerns about conditions of secondary roads and traffic volumes near key destinations. The number of non-resident visitors to Montana has increased by 14 percent from 1993 to 2001 and expenditures have also increased by 14 percent in constant dollars.[2]
- Population was forecast to grow more rapidly in Montana's urban areas than in the state as whole. Seven urban counties were identified in the initial TranPlan 21 (Cascade, Flathead, Gallatin, Lewis and Clark, Missoula, Silver Bow, and Yellowstone). Data from 2000 show that growth is prevalent in three of the counties: Flathead, Gallatin, and Missoula.

[2] Institute for Tourism and Recreation Research, University of Montana.

II. Strategic Considerations and Trends and Their Implication for Transportation and Economic Development

In order to manage and develop a transportation system that supports the State's economy today and in the future, MDT needs to consider the State's geography, population, and economy. In the past, these three features have combined to produce an extensive transportation system in Montana oriented towards shipping bulk commodities by highway and rail to terminals and then out of state. The highway system developed to provide farm and ranch to market access. Geography, population, and economy remain key considerations in determining current and future transportation demands in Montana. Their implications for economic development are discussed in turn.

A. Geography

The following geographic realities are important considerations in determining how to support economic development through transportation in Montana:

- **Scale of the state**

  Montana spans 147,046 square miles, making the State the fourth largest in the United States in overall size and land area (behind Alaska, Texas, and California).

- **Topography**

  Montana's internal waterways cover 1,490 square miles, which is 26th among states. Montana's one percent ratio of water to land area is 40th among the 50 states. The average ratio of the 50 states is 7.1 percent. Compared to other states that are heavily dependent on the shipment of bulk commodities, MDT has no inland waterways that are used for shipping these commodities.

- **Distance from markets**

  Montana's industry is a long distance from markets. Commodities that originate in Montana are shipped an average of 711 miles per ton, nearly three times the United States average of 240 miles per ton. The average distances per ton of cargo originating in Idaho, North Dakota, and South Dakota are 317 miles, 319 miles, and 469 miles, respectively. Wyoming, however, transports its goods an average of 856 miles per ton.[3]

[3] Source: 1997 Commodity Flow Survey, US Dept of Transportation and US Dept of Commerce

- **Location in low population region**

  Montana has a relatively small economy, as do its neighboring states. Therefore, compared to their competitors, which Montana businesses have smaller local and regional markets in which to sell goods and services the neighboring Canadian provinces have larger populations and economies, giving them a competitive advantage.

- **East-west orientation**

  The transportation system in many parts of the State, most notably in eastern Montana, is oriented east–west. At the regional and national levels, Montana is a bridge state for motor carriers.

1. Transportation Implications

a. Competitive disadvantage due to distance from market

Transporting goods to markets is more difficult and costly for businesses in Montana than those in other states, presenting a competitive disadvantage for the state. The "gap" between Montana and the rest of the nation in the distance products are shipped has grown between 1993 and 1997 from a 347 miles per ton to 471 miles per ton.[4] As seen in Exhibit II–1, between 1993 and 1997, Montana saw the commodities it produces and ships increase by 16 percent, which is on par with the national rate of increase.

Exhibit II–1: Change in Miles per Ton of Shipments, 1993-1997

	1997 Tons Shipped	1997 Miles per Ton	Increase (Decrease) 1993-1997	
			Tons Shipped	Miles per Ton
Montana	**95,778**	**711**	**16%**	**19%**
Idaho	47,764	317	3%	(-22%)
North Dakota	87,831	319	45%	7%
South Dakota	36,853	469	46%	92%
Wyoming	275,466	856	(-6%)	0%
U.S.	11,089,733	240	14%	(-4%)

Sources: 1993 and 1997 Commodity Flow Surveys, U.S, Department of Transportation and U.S. Department of Commerce. Calculations by EDR Group.

An increase of miles per ton is not necessarily bad, as it could indicate national and international demand for products produced in-state, such as Gateway

[4] Sources:1993 and 1997 Commodity Flow Surveys, US Department of Transportation and US Department of Commerce

Computers shipped from South Dakota.[5] However, without such a dynamic change in product mix and demand, the data indicates that producers in Montana are faced with higher costs for shipping than national competitors.

Shipping distances for seven of 17 selected commodities that originate in Montana are equivalent to or less than the U.S. averages for those products. For the other 10 commodities, however, the distances are longer and most are significantly longer than the national average. Exhibit II–2 reviews the tons per mile shipped of these commodities.[6]

[5]Commodity Flow Surveys measure distances shipped within the United States. For exports, the CFS accounts for shipments to borders or ports.

[6] Data for commodities not included in this accounting are not reported in the Montana commodity flow survey because of suppressions to avoid disclosing data of individual companies; 0 or less than a single unit of measure of a commodity in Montana; or a valid sample could not be obtained.

Exhibit II–2: Shipping Distances for Selected Commodities Originating in Montana

Selected Commodities	Tons Per Mile		Montana compared to U.S.	
	U.S.	Montana	Difference in Miles Per Ton*	Percent Montana/ U.S.†
Base Metals	350	1,191	841	340%
Cereal grains	410	690	281	169%
Other agricultural products	326	141	-186	43%
Chemicals	400	856	455	214%
Coal	446	950	504	213%
Coal and petroleum products	152	367	215	241%
Electronic and other electrical equipment and components, and office equipment	683	212	-471	31%
Fuel oils	106	162	56	152%
Furniture, mattresses and mattress supports, lamps, lighting fittings	581	769	188	132%
Lumber/wood products	179	976	797	546%
Machinery	542	588	47	109%
Metallic ores and concentrates	526	1,025	499	195%
Plastics and rubber	530	235	-295	44%
Prepared foods	345	447	102	130%
Primary metals	376	1,191	815	317%
Printed products	292	246	-46	84%
Transportation equipment	480	182	-298	38%

Sources: 1997 Commodity Flow Survey for United States and Montana

*Positive numbers

†Ratios over 100 percent indicate that a specific good produced in Montana is shipped further than the national average for that commodity. Negative numbers and ratios under 100 percent indicate that goods produced in Montana are shipped less distance than the national averages.

Montana's geography also virtually eliminates water transportation as an effective mode for shipment. The 1997 Commodity Flow Survey (CFS) shows that 6.1 percent of all national tonnage is transported by water. These tons account for 14 percent of the ton miles incurred within the United States, but only 1.2 percent of the value of shipped tonnage. Thus, water is a cost-effective way to transport bulk commodities that are relatively low value per unit. Montana is not able to use waterway transportation, and the 1997 CFS does not report any tonnage shipped by water. Historically, Montana industry has compensated by constructing and maintaining railways to ship bulk commodities.

b. Continued and increased reliance on air transportation services

The use of air transportation services and telecommunications technology provides the means to overcome Montana's distance from markets. Montana's geography indicates the increased importance of air transportation services. This includes both business-related travel and shipping. The air transportation sector is particularly important for the growing high-end services that can contribute to economic development. Such sectors include business services, finance, insurance, real estate, and consulting.

These service industries require efficient roadway connections among population centers within Montana. In addition, access to and from airports is necessary to facilitate in-state commerce, business travel among states, and tourist travel.

B. Population Trends

Montana's population trends will have one of the most significant impacts on the demand for transportation in Montana. The number of people, their ages, and where they live, are important considerations for MDT's long-range planning. In turn, population trends must be considered when assessing the State's economy because Montana's growing industries typically need to be located in, or close to, the population centers.

1. Low Population Density

Montana's population was reported in the 2000 census at 902,195, which is 0.3 percent of the United States and 22 percent of the five-state region. In land area, Montana covers 4 percent of the nation, and 31 percent of the region. Montana is among the country's least populated states, and 48th in the nation, with about six people per square mile (ahead of Alaska and Wyoming). By comparison, the per square mile densities of the United States and Montana's four border states are about 80 and 10, respectively (Source: Northeast-Midwest Institute).[7]

2. Low and Uneven Population Growth

During the 1990s, Montana maintained its national share of population. In 1990 and 2000, the State ranked 44th among the 50 states in population, and grew at just under the national rate. Regionally, it appears that Idaho is emerging as the dominant state among Montana's immediate neighbors, showing a 1990 to 2000 population increase more than double the U.S. rate. Due to the impact of Idaho, Montana's 10-year population growth lagged behind the total of neighboring states. However, Montana's rate of growth was higher than North Dakota, South Dakota, and Wyoming (Exhibit II–3).

[7] Idaho, Montana, North Dakota, South Dakota, and Wyoming.

Exhibit II–3: Population of States in the Region

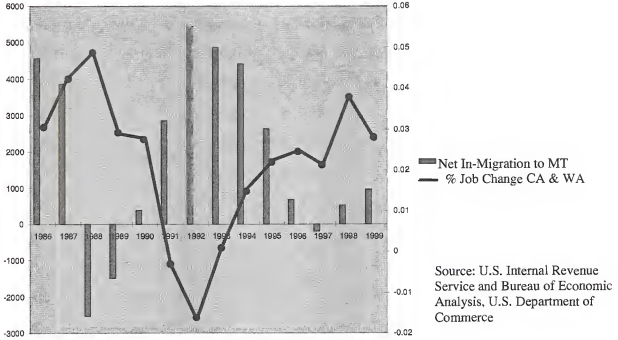
State/Region	2000	Rank 2000	Rank 1990	Growth Rate 1990–2000
Montana	**902,195**	**44**	**44**	**12.9%**
Idaho	1,293,953	39	42	28.5%
North Dakota	642,285	47	47	0.5%
South Dakota	754,844	46	45	8.5%
Wyoming	493,782	50	50	8.9%
Total 4 Regional States	3,184,864	–	–	13.8%
United States	281,421,906	–	–	13.1%

Source: U.S. Census, U.S. Department of Commerce

Population growth in Montana occurs primarily through migration. Within Montana, population change has been driven by the movement of people from agricultural and resource-based communities to urban areas in search of employment opportunities.

Historically, shifts of migration patterns to Montana are linked to the health of the California and Washington State economies. This dynamic is illustrated by Exhibit II–4 below, and is not likely to change. People move to Montana when the economy is poor in these two states, and there are both perceived opportunities in Montana and a belief that, with a lower cost of living, dollars will go further. The latter perception is also a reason that retirees move to the State.

Exhibit II–4: Migration from California and Washington to Montana



Source: U.S. Internal Revenue Service and Bureau of Economic Analysis, U.S. Department of Commerce

3. Population Growth is Concentrated in a Few Counties

Montana is and will continue to be a rural state. Montana does not have a city with a population of 100,000. The most populated county in the state is Yellowstone, with 129,350 people, followed by Missoula County with 95,800 and Cascade County with 80,350. In the 1990s, the proportion of the population in these urban counties was little changed.

Growth in Montana's seven urban counties was an aggregate of 16.5 percent through the 1990s, which is slightly higher than the statewide average. These counties, however, show three different population patterns:

- Strong urbanization trends are seen in Flathead, Gallatin, and Missoula counties, where population increased by 25.8 percent—twice the state average.
- Growth was slightly faster than the State in Lewis and Clark and Yellowstone counties, with an overall population increase of 14.9 percent.
- Silver Bow and Cascade counties were subject to de-urbanization in the 1990s, with an aggregate growth rate of 3 percent.

4. Growth Trends Continue to Favor Western Montana

During the 1990s, population and income continued to move from eastern to western Montana, a trend which was noted in the original TranPlan 21. Exhibit II–5 and Exhibit II–6 examine Montana on the basis of its five transportation districts. Missoula and Flathead counties, two of the strongly urbanized areas in the state, are in District 1 in western Montana. Gallatin, the third county of this cluster, is in the southwestern District 2, as is Silver Bow. Lewis and Clark and Cascade counties are in District 3 of the north-central portion of the state, and Yellowstone County is in District 5, in Montana's south-central region. District 4, which includes the eastern third of Montana, does not host an urban county area.

Exhibit II–5: Location of Transportation Districts in Montana

Exhibit II–6: Personal Income, Population, and Job change in Montana, 1990 to 2000

Transportation District	Total Personal Income 2000 ($ millions)	Increase of Income 1990-2000 (constant $)	Total Employment 2000 (1,000s)	Increase 1990-2000	Population 2000 (1,000s)	Increase (Decrease) 1990-2000
District 1	5,863.6	51%	169.08	42%	275.81	24%
District 2	3,574.5	48%	99.83	39%	159.97	17%
District 3	4,597.7	27%	124.24	20%	199.28	6%
District 4	1,689.7	20%	49.59	8%	80.43	-7%
District 5	4,400.0	39%	122.57	28%	186.75	13%
Montana	20,125.5	39%	565.31	30%	902.24	13%
United States	7,888,295.4	38%	167,211.30	20%	281,467.20	13%

Source: NPA Data Services, Inc.

5. Aging Population

Montana's population has been aging at a faster pace than the nation is as a whole. The median age of Montanans increased compared to the national median, from 0.9 years above the median in 1990 to 2.2 years above in 2000. With a median age of 37.5 years, Montana's population is older than each of its neighboring states by 1.3 to 4.3 years. In the last decade, the median age in North Dakota, South Dakota, and Wyoming all moved from below to above the national average. Only Idaho saw its median age become younger compared to the U.S. population.

Montana also has a lower proportion of younger workers (those aged 18 to 44) and a higher percentage of mature workers (aged 45-64) than each of its neighboring states and the nation. (See Exhibit II–7.)

Exhibit II–7: Percent of Population by Age Group

State/Region/U.S.	Percent of Population- 2000				Years	
	Under 18	18-44	45-64	65 and Over	Median Age 2000	Median Age 1990
Montana	25.5	36.7	24.4	13.4	37.5	33.8
Idaho	28.5	38.7	21.5	11.3	33.2	31.5
North Dakota	25.0	38.6	21.6	14.7	36.2	32.4
South Dakota	26.8	37.6	21.2	14.3	35.6	32.5
Wyoming	26.1	38.2	24.0	11.7	36.2	32.1
United States	25.7	39.9	22.0	12.4	35.3	32.9
Source: U.S. Census						

By age cohort, Montana's population has fewer young workers, aged 25 to 44, than it did in 1990, and 50 percent more mid-aged to older workers (ages 45 to 64). The more

urban the area, the higher rate of growth is seen for this latter age group. The State's 12 percent growth in elderly (65 and older) was proportionate with Montana's overall population change. It was also proportionate in the quickly urbanizing Flathead, Gallatin, and Missoula counties, but growth among senior cohorts was greater than population change in the aggregate of Lewis & Clark, Yellowstone, Silver Bow, and Cascade counties. (See Exhibit II–8.)

Exhibit II–8: Change in the Age Structure of Montana's Population, 1990 to 2000

	State Totals		Strong Growth Urban Counties*		Moderate Growth Urban Counties†		Stagnant Urban Counties‡	
	Pop. 2000	Change 1990-2000	Pop. 2000	Change 1990-2000	Pop. 2000	Change 1990-2000	Pop. 2000	Change 1990-2000
Total 2000	902.2	13%	189.2	26%	185.1	15%	115.0	3%
Under 25	320.4	9%	73.0	23%	64.3	·10%	39.7	-1%
25-44	236.8	-5%	63.4	6%	50.6	-4%	29.3	-14%
45-64	225.4	50%	32.4	71%	46.6	54%	29.4	37%
65+	119.5	12%	20.4	26%	23.6	20%	16.5	5%

Source: NPA Data Services
*Flathead, Gallatin, and Missoula counties
†Lewis & Clark and Yellowstone counties
‡Silver Bow and Cascade counties

6. Transportation Implications

Travel demand is determined by population and the level of economic activity. Travel in Montana breaks down into the following demands: daily commuting for work, school, and other commitments; business travel (not commuting) by Montanans or by out of state visitors; and personal or vacation travel by both Montanans and visitors. The implications of these demographic trends are:

- **For most of the State travel demand, growth due to population change will not reduce travel times and create congestion at the statewide or regional levels.**

  Combined population and land area indicates that travel (distinct from commodity shipments) is not burdened by congestion and travel times are already at their minimums (LOS A or B).[8]

[8] If congestion is a problem anywhere, it would be localized in peak hour traffic at key intersections in the several of Montana's cities.

Population and income are indicators of the demand for personal travel by Montana's citizens. As we look at changes among transportation districts, we can hypothesize that the aggregate demand for personal travel has increased in western and southwestern Montana, held steady (or perhaps moderately increased) in the central regions of the State, and decreased in eastern Montana.

- **Montana counties experiencing the bulk of the State's population growth will continue to experience reduced service levels on their arterial system.**

  Capacity concerns are concentrated in a few counties.

- **Aging population will increase the importance of public transportation, age-related safety provisions, and other strategies for meeting the needs of the elderly.**

  Montana's aging population has implications for transportation programs to serve the State's elderly citizens. If a greater proportion of the population is unable to drive, or is restricted in driving, due to infirmities generally associated with aging, then the State and communities may be called on to provide increasing amounts of public transportation to assure that Montanans can remain mobile.

- **In large parts of Montana, residents will have to drive further to access services.**

  Population trends indicate that smaller communities will continue to lose services and that Montanans will have to drive longer distances to regional service centers. This will increase the importance of winter maintenance for many communities.

- **Montanans will be driving longer distances to work as businesses need to recruit over a larger geographic area.**

  An aging population with fewer citizens in prime working age (the 18-44 and 45-64 cohorts) may impede future economic growth if the in-state labor pool supply is restricted and/or fosters an increase of VMT in Montana as people drive longer distances to work. If a labor shortage does arise, however, then there may be a perception that jobs are available, leading to additional migration from Washington, California, and elsewhere.

C. Economic Trends Through the 1990s

Montana's economy underwent key changes in the 1990s.

1. Decline in Importance of Farming, Mining, and Manufacturing for Montanans

Between 1990 and 1999, employment in the goods-producing sectors of farming, mining, and manufacturing increased by four percent, but personal income decreased in constant dollars by three percent. Collectively, the direct impact of these sectors decreased in importance for Montanans, falling from 15 percent to 12 percent of the State's employment and from 10 percent to 8 percent of the total personal income.

Recent price and production patterns of key natural resources, such as wheat, cattle, and timber, present uneven growth patterns in Montana. On the positive side, the price per bushel of Montana's wheat has been rising since 1998 and is above 1991 levels, although it is still significantly beneath the decade's 1994-95 highs. Cattle prices have been on a "roller-coaster" since 1986, recording steep price rises from 1986 to 1991, a precipitous decline from 1993 to 1996 and a dramatic rise since that point, which leaves Montana's steer and heifer cattle prices at record highs in 2001. From a transportation perspective, however, higher unit prices may translate into smaller supplies, meaning less wheat or cattle to transport. This is certainly true for wheat in Montana, which in 2001 recorded its lowest output since 1998, and was 13 percent beneath its 2000 level. In addition, Montana's volumes of timber board feet cut and timber board feet sold have declined from more than 500 million feet cut and 400 million feet sold in 1989 to approximately 100 million board feet cut and sold in 2001.

Exhibit II–9 shows the performance of Montana's large export industries measured by changes in employment and gross state product (GSP). Note that metal mining and coal mining lost employment during the 1990s, but gained income (in constant dollars) over the decade – indicating that these industries are mechanizing and still producing considerable income for Montana. However, lumber and wood products and oil and gas extraction lost both employment and income over the decade. Both sectors declined in absolute numbers, and Montana's lumber and wood products industry lost market share in the United States, perhaps signifying that these industries are declining in Montana.

Exhibit II–9: Performance of Key Core Industries in Montana

Sector	Changes during the 1990s		
	% Employment Increase/Decrease	% Income Increase/Decrease	Position Relative to the National Industry
Metal Mining	(26)	66	Montana's employment declined faster than the U.S. and GSP increased less than the U.S.
Coal Mining	(15)	128	Montana's employment declined slower than the U.S.; and GSP increase was greater than the U.S. increase.
Lumber and Wood Products	(15)	(38)	Montana's employment declined, while the U.S. employment increased. Montana's GSP decreased steeper than the U.S. decreased.
Oil and Gas Extraction	(10)	(39)	Employment in Montana declined more slowly than the U.S. decline. GSP increased in the U.S. but declined in Montana
Farms	5	15	Employment in Montana rose, while remaining flat across the U.S. GSP, however, increased at a higher rate nationally than in Montana.

Source: U.S. Bureau of Economic Analysis
Note: The forestry sector saw an increase of employment in Montana, but at a slower rate than the nation as a whole. Income data from BEA is not available for this sector.

2. Automation in Basic Industries Supplants Employment and Personal Income

There were significant capital investments in farming and manufacturing during the 1990s. This is resulting in healthy industries where industry income rises, but employment and personal income stagnates or falls. Exhibit II–10 illustrates that farming, mining, and manufacturing employment and income lagged behind gross State product for those sectors. The mining and farming industries' contribution to the gross State product rose while personal income actually fell (all monetary comparisons are in constant dollars).

Exhibit II–10: Percent Change of Major Goods Producing Sectors by Employment, Income, and Product

Sector	Employment	Personal Income (constant $s)	Gross State Product (constant $s)
Farming	5%	-13%	15%
Mining	-15%	-12%	25%
Manufacturing	10%	6%	25%

Source: Bureau of Economic Analysis, U.S. Department of Commerce

3. Services Continue to be the Growth Sectors

The growth sectors identified in the initial TranPlan 21 continued to increase their shares of the Montana economy. The sectors of wholesale and retail trade, finance, insurance and real estate, and services grew by a combined 35 percent in employment and 40 percent in personal income (constant dollars). In 1990, these sectors accounted for 56 percent of Montana's employment and generated 29 percent of its personal income. By the end of the decade, these shares had increased to 60 percent and 33 percent, respectively.

As shown in Exhibit II–11, during the 1990s, employment and income continued increasing in wholesale and retail trade, finance, insurance, real estate, and services. Moreover, in the latter two sectors, income grew at a much higher rate than employment.

Exhibit II–11: Percent Change of Trade, Financial and Service Sectors by Employment and Income, 1990 –1999

Sector	Employment	Personal Income
Wholesale trade	19%	18%
Retail trade	33%	22%
Finance, insurance, and real estate	31%	79%
Services	41%	47%

Source: Bureau of Economic Analysis, U.S. Department of Commerce

4. Tourism

Montana hosted 9.5 million visitors between 2000 and 2001. Visitors, including both recreational and business visitors, spent about $1.6 billion in Montana in 1999 (the last year for which spending data is available), about eight percent of the State's gross product. The visitor-serving industry is responsible for about 25,800 direct jobs in Montana, a level representing about 80 percent to 93 percent of direct employment in each of the sectors of farming, construction, manufacturing, finance, insurance, real estate, and health services. Recreational tourism is expected to increase during 2002 as Americans shy away from overseas travel due to international conditions. (Source:

Outlook 2002, University of Montana, and Institute for Tourism and Recreation Research, University of Montana).

The overwhelming majority of visitors to Montana drive into the State. Data provided by the University of Montana's Bureau of Business and Economic Research in *Outlook 2002* suggest that the use of air travel is increasing. The volume of non-resident visitors has increased from more than 8 million to about 9.5 million from 1992 to 2001. Airplane deboardings in Montana (which might be visitors or Montana residents) has been increasing at a faster pace over the same period, from slightly more than 800,000 arrivals in 1992 to about 1.1 million in 2001 (it is still too early to determine the impacts of September 11 on the visitor industry in general and specifically on air travel in Montana). Although it is certainly possible that these data show that Montanans are flying more often, it is also worth noting that the proportion of visitors to deboardings has been increasing. Montana's five busiest airports for passenger arrivals are, in order, Billings, Bozeman, Missoula, Kalispell and Great Falls.

- **Attraction of national parks**

  Tourism in Montana benefits from two national parks, Glacier on Montana's northwest Canadian border and Yellowstone on Montana's south-central border with Wyoming.[9] Together, visitors to the two parks increased from 3.5 million in 1980 to 5.5 million in 2000, an increase of 58 percent, there have been changes in visitation patterns. In 1980 and 1990, Yellowstone attracted 58 percent and 59 percent of the total visitors, respectively. However, in 2000, 69 percent of all visitors came to Yellowstone. Over the 20-year period, these two parks increased their share of all visitors to the national parks under the jurisdiction of the Pacific Field Office of the National Park Service from 7 percent to 9 percent.[10]

- **Out-of-state visitors**

  University of Montana data show that out-of-state visitors increased by 14 percent between 1993 and 2000. During these seven years, visitation was flat for Yellowstone and Glacier National Parks, actually declining by one percent.[11] The strong performance of Montana's visitor industries despite flat national park attendance indicates a positive trend for business travel and tourism in the state. Montana has considerable interest in continuing to develop the skiing industry as a winter counter-balance to national park and other summer visitations. Ski visits to Montana grew from about 750,000 in the 1991-92 winter to roughly 950,000 in 1998-99, but these ski visit figures have been flat since then, although it

[9] Yellowstone National Park is primarily in Wyoming, but the northern tip is in Montana close to Bozeman and Billings. Glacier National park spills north into Canada, but is primarily in Montana.
[10] Source: United States National Park Service. Note: In these data, a single visitor to both Glacier and Yellowstone National Parks is counted twice.
[11] Sources: Institute for Tourism and Recreation Research, University of Montana, and the United States National Park Service.

appears that increasingly more Montanans are skiing. The role of Montanans is important in maintaining the infrastructure of the skiing industry as a base for a possible resurgence in out-of-state winter vacationers. (Source: Outlook 2002, University of Montana).

5. Changes in the Transportation Sector Reflect Changes in Montana's Population and Economy

An aging population and three strongly urbanizing counties, coupled with changes from commodity industries to trade, services and financial sectors, as well as changes within the commodity sectors, have affected transportation in Montana. We can, in part, measure these changes by examining employment and income changes in various transportation industries in the state. In the 1990s:

- Trucking and warehousing increased by 22 percent in employment and 18 percent in income.
- Railroads declined two percent in both employment and income.
- Air transportation employment grew by 39 percent, with a 21 percent increase in income.
- Local and interurban transportation saw an employment growth of 30 percent and income growth of 18 percent.

6. Opportunities for Economic Diversification

The major sectors upon which Montana's economy has been dependent tend to be cyclical industries providing limited opportunities for employment and economic diversification. Montana must look to other sectors for economic diversification.

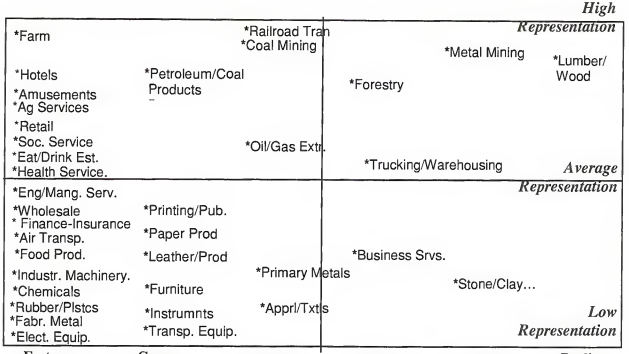
During the 1990s, Montana had 12 export-oriented industries that grew faster than the national average in employment over the decade and experienced a growth (after accounting for inflation) in gross state product. Engineering and management form services has a higher ratio of gross state product in Montana than in the national economy. While these industries are small in Montana, they indicate areas of growth potential. These industries may or may not continue to grow, and "rate of growth" can be misleading when comparing a large industry to a small one, or, in some cases, a tiny one. Nevertheless, Montana's young industries have established a toehold in the state, and represent opportunities for growth. These industries are listed in Exhibit II–12.

Exhibit II–12: Growing Montana Export-Oriented Industries

Finance, insurance, and real estate	Industrial machinery
Electrical equipment	Chemicals
Instruments	Leather products
Rubber and plastic products	Transportation equipment
Furniture	Fabricated metal products
Paper products	Engineering and management services

Exhibit II–13 on the following page illustrates the trends of Montana industries against national averages during the 1990s by employment. Industries on the upper half of the chart have a greater percentage of representation in Montana than in the nation as of 1999. In addition, those industries have a greater percentage of representation on the left half of the graphic performed better in Montana than in the U.S. as a whole in percentage of employment growth. Those on the right lagged behind the national growth rates.

Exhibit II–13: Major Growth Industries in Montana



D. Forecasts of Future Growth

The Montana Department of Commerce purchases population and economic forecasts from NPA Data Services, Inc. The forecasts run to 2025 and include population by age cohort, employment at one-digit levels of the standard industrial classification system, and earnings of workers and proprietors in these sectors.[12] The following subsections summarize our analysis of these forecasts.

1. Population is Forecast to Grow at the National Rate

By 2025, Montana is projected by NPA to grow to almost 1.2 million people, an overall growth rate of 29 percent from 2000, which is equivalent to a predicted national growth rate of 30 percent over the same period.

[12] Department of Commerce Officials question the mining data provided by NPA. They believe that NPA may be undercounting this sector.

2. Montana Will Continue to Age Faster Than the U.S. as a Whole

The growth rate of Montanans 65 or older is predicted at 102 percent (more than doubling), compared to a national rate of 84 percent.

3. Population and Employment Growth Will Be Concentrated in the Most Urban Counties

Trends of population concentration persist. Uneven growth will continue across the state, with an aggregate 45 percent population increase in Flathead, Gallatin, and Missoula Counties and 36 percent in Lewis and Clark and Yellowstone.

Silver Bow and Cascade counties will continue to fall behind the rest of Montana, and experience stagnation with an overall 4 percent population increase. These counties are predicted by NPA to show net losses in all cohorts except the elderly, which will grow by 85 percent. Lewis and Clark and Yellowstone counties face a significantly aging population as well. By comparison, the strongest three urban counties will see substantial growth in youth and working age cohorts, and their senior population will grow at a slower rate than predicted for Montana as a whole. By 2025, the over-65 population of Flathead, Gallatin, and Missoula counties will be two-thirds of the projected state average. Exhibit II–14 illustrates projected population changes in absolute numbers for Montana and urban counties.

Exhibit II–14: Montana's Expected Population Growth to 2025 (in Thousands)

State Totals			Strong Growth Urban Counties*		Moderate Growth Urban Counties†		Stagnant Urban Counties‡	
	Pop. 2000	Change 2000-2025	Pop. 2000	Change 2000-2025	Pop. 2000	Change 2000-2025	Pop. 2000	Change 2000-2025
Totals	1,166	264	344	106	251	66	120	5
Under 25	380	60	120	30	81	16	39	(1)
25-44	295	59	97	30	65	14	25	(5)
45-64	250	24	78	23	54	7	26	(3)
65+	241	121	49	24	52	28	31	14

Source: NPA Data Services, Inc.
*Missoula, Flathead, and Gallatin
†Lewis & Clark and Yellowstone counties
‡Silver Bow and Cascade counties

4. Population Continues to Shift From East to West

NPA forecasts indicate that eastern Montana's population will continue to decline relative to the rest of the state. The population centers in western Montana will grow faster than those of the east. Between 2000 and 2025, the population in:

- Northwestern Montana (MDT District 1) is projected to grow by 45 percent.
- Southwestern and south-central Montana (MDT Districts 2 and 5) will keep pace with the state and national projections, showing overall growth of 29 percent.
- North-central Montana (MDT District 3) will increase by 16 percent, which is predicted to be entirely due to a doubling of its senior population.
- Eastern Montana (District 4) is predicted to fall further behind the rest of Montana, with only a 10 percent net increase, one-third the predicted State rate.

Exhibit II–15: State Population Projections

State & District	Population (in Thousands) 2025	% Increase 2000-25	% Increase 65+ Pop. 2000-25	Proportion of State 2025
Montana	1,116	29	102	100%
District 1	400	45	136	34%
District 2	207	29	79	19%
District 3	230	18	105	20%
District 4	89	10	44	8%
District 5	240	29	97	21%

Source: NPA Data Services

5. Statewide Employment is Forecast to Grow Slowly, but Employment and Income From Services will Grow Faster than the National Rate

The Montana economy is expected to grow by 220,000 jobs between 2000 and 2025, or 39 percent above its current employment base, generating income of over $9 billion, nearly doubling the State's 2000 level (an increase of 96 percent in constant dollars is projected). Montana is projected to increase its national market share of the goods producing sectors of farming, mining, and manufacturing, as well as the retail sector, which is important to serve the visitor industry.

Projections over the 25-year period indicate that:

- Farm employment is expected to drop by 13 percent, but real farm income will rise by 25 percent. National totals are 13 percent and 22 percent, respectively.
- Mining employment is expected to rise by 47 percent, with income increasing by 106 percent. Nationally, mining employment is predicted to increase by 35 percent and income by 89 percent.
- Manufacturing employment is forecast to increase by 6 percent and earnings by 54 percent, which is greater than the national forecasts of a two percent rise in employment and 43 percent in income.
- Retail employment is forecast to grow 43 percent and income by 104 percent compared to national growth rates of 38 percent and 94 percent.
- Jobs in finance, insurance, and real estate are forecast to increase by one-third, and income to more than double. Nationally, job growth in this service sector will exceed Montana's, growing at 39 percent, but national income growth will lag behind Montana at a 95 percent increase.
- Montana's service sector will grow by 55 percent in employment and 124 percent in income. These rates are equivalent to national projections of 56 percent in jobs and 118 percent in income.

- Other sectors that by themselves are not significant drivers of transportation demand account for 66,000 of the predicted job gains in Montana (37 percent growth) and $5 billion in new income (93 percent growth).

6. Economic Forecasts Indicate Growth in the Value of Bulk Commodities to be Shipped Out of the State and an Increase in Manufactured Products that are Likely to be Trucked or Flown Out of the State

Exhibit II–16 lists the major industries in Montana and potential manufacturing growth industries, based on trends in the 1990s and forecast data. Large percentage increases are due to small bases of manufacturing output in 1998.

Exhibit II–16: Estimates of Montana's Future Output in Selected Manufacturing Industries by 2025

	Estimated Range of Output by Value in 2025 ($millions)*	Lower Bound Percent Change in Value 1998-2025
Major Industries		
Farming	4,364	92%
Wood products	1,881 – 2,520	55%
Metal mining†		
Coal Mining‡		
Oil mining§		
Petroleum products§		
Forestry Products‖		
Industries of Potential Growth Opportunity		
Food processing	985 – 1320	35%
Furniture	186 – 250	511%
Pulp and paper	437 – 586	59%
Printing and publishing	499 – 669	132%
Chemicals and allied	382 – 512	149%
Rubber and plastic products	200 – 268	2329%
Leather products	20 – 27	1731%
Fabricated metal	195 – 261	239%
Industrial machinery	1,091 – 1,462	703%
Electrical equipment	137 – 183	256%
Transportation equipment	325 – 436	695%
Scientific instruments	142 – 190	421%

Source: Calculated by Economic Development Research Group, using economic sector forecasts from NPA Data Services, Inc. and extrapolation of 1980-88 detailed industry trends from U.S. Bureau of Economic Analysis.

*The lower bound of the range is a linear extension of 1990-98 output trends to 2025. The higher bound is scaled up so that the sum of all manufacturing industries agrees with NPA's projected change in overall personal income generated by manufacturing sector in 2025.

†The mining sector is notoriously volatile and 1998 was a particularly poor year for metal mining and oil extraction. The metal mining industry is now thriving; oil, however, has not fared well recently.

‡The coal mining industry enjoyed a very strong decade. Projecting output from the 1990s on a straight line would result in a 541 percent increase of output value.

§Petroleum products is generally a strong industry in Montana, but the value of output fell in 1998, making extrapolation from that year particularly unreliable

‖Forestry products is a strong industry in Montana that also had an off-year in 1998.

7. Economic Growth and Potential for Diversification is Concentrated in the Parts of Montana Experiencing Population Growth

Exhibit II–17 shows the location of key commodity industries by the transportation district in which they are concentrated. A single asterisk (*) denotes the location of more than 20 percent of an industry and two asterisks (**) indicates the location of more than 50 percent of an industry. The small but growing industries are most concentrated in Districts 1 and 2.

Exhibit II–17: Locations Where Key Montana Industries Are Concentrated

Transportation District:	1	2	3	4	5
Largest Industries					
Farm Products			*	*	*
Forestry Products	**				
Metallic Mining					**
Coal				**	**
Fuel oils			*	*	*
Coal and petroleum products					**
Wood Products	**				
Small but Growing Industries					
Printing & Publishing	*		*		*
Paper Products	**				
Food Products			*	*	*
Leather Products		*	*	*	
Industrial Machinery	**				
Fabricated Metal	*				*
Chemicals		*	*		*
Furniture	*	*			*
Rubber & Plastics	*	*			*
Electrical Equipment		**			
Instruments	*	*			
Transportation Equipment		**			*

Source: U.S. Departments of Commerce, Bureau of Economic Analysis, with estimates of withheld data provided by Minnesota Implan Group.

8. Service Industry Growth Will Generate Increased Demand for Air Travel and Increase Traffic In Parts of the State

Our analysis estimates an increase of 30,000 new service jobs in business, legal, architectural, and management services. As NPA projections are limited to the major sectors of economic development, we must look to trends. To apply forecasts to other sectors, we look to trends in the 1990s to guide us as we seek to apply employment forecasts. In 2000, 43,900 Montanans worked in business, legal and engineering, and

management services. Employment in these three sectors grew by a rate of 56 percent in Montana between 1990 and 2000, compared to a growth of 45 percent for the overall service sector.[13]

During the past decade, the rate of growth for these three industries was at 125 percent of the overall service sector. For this analysis, we assume that the rate of growth to 2025 in these three travel-oriented service industries will remain constant at 125 percent of growth in the service sector across as predicted by NPA. (See Exhibit II–18.)

Exhibit II–18: Service Sector Growth Forecasts, 2000 to 2025

	Number of Jobs		Growth Rates from 2000	
	2015	2025	2015	2025
NPA projections for service sector	234,270	268,940	36%	45%
Estimated employment for business, legal, and engineering/ management sectors	63,800	74,800	57%	70%

Service sector growth varies by transportation district and employment sector. Southwestern Montana, District 2, shows the strongest gain in these important service sectors, followed by District 1 in the northwestern portion of the state. Districts 1, 3, and 5 all have between 21,000 and 23,000 key service jobs. District 4 has the fewest, though growth in eastern Montana was at a higher rate than Districts 3 and 5 (See Exhibit II–19).

Exhibit II–19: Employment in Key Services by District

	FIRE	Pro. Services	Hotel	Totals	Urban Counties
District 1	-17%	92%	18%	41%	Flathead, Missoula
District 2	49%	78%	80%	70%	Gallatin, Silver Bow
District 3	21%	55%	-7%	34%	Lewis & Clark, Cascade
District 4	9%	62%	48%	37%	None
District 5	24%	36%	36%	32%	Yellowstone
Statewide	14%	63%	34%	41%	

Source: U.S. Departments of Commerce, Bureau of Economic Analysis, with estimates of withheld data provided by Minnesota Implan Group.

Note: FIRE is Finance, Insurance, and Real Estate. "Hotel" is Hotel and Lodging Places. "Pro. Services" is the total of four service sectors: Professional Services, Business Services, Legal Services, and Educational Services.

[13] Source: Bureau of Economic Analysis, U.S. Department of Commerce.

9. Montana's International Exports Performed Significantly Better Than Other States' Exports Through the Port of Sweet Grass

The ports of Sweet Grass in Montana and Coutts in Alberta on the Canadian side of the border connect Montana with Calgary and Edmonton. These ports comprise by far the dominant route for Montanan-Canadian trade, handling 75 – 80 percent of imports into Montana and exports from Montana. The Port of Sweet Grass is on I-15 (approximately 35 miles north of Shelby). I-15 also directly connects Sweet Grass with Great Falls (116 miles from the Port), Helena (204 miles), and Butte (268 miles). Butte and Shelby connect the Port of Sweet Grass to Montana's principal international truck freight routes of I-90 and I-15, respectively.

- **Major ports in Montana**

  Goods originating in the 50 states and Puerto Rico pass through the Port of Sweet Grass into Canada. The leading originating state is Texas, which is the origin of 29 percent of the value of goods exported through the Port, followed by California, Oklahoma, and Illinois. Montana ranks fifth. In 2000, Montanans sent $163.3 million of cargo through Sweet Grass, accounting for about 5 percent of exports from that Port. Montana, however, saw an increase of 83 percent (in nominal dollars) of the value of its exports from 1997 through 2000. As Exhibit II–20 shows, Montana's rate of growth is 20 times higher than the Port average and is significantly higher than goods originating from other states. Moreover, the value of Montanan goods exported through Sweet Grass accounts for more than 30 percent the State's foreign shipments.

Exhibit II–20: Goods Exported through the Port of Sweet Grass

State of Origin	Annual 2000	Percent of total in 2000	Change 1997-2000, Nominal $s	Change 1997-2000, Constant 1997 $
Texas	$1,002,525,083	29%	16%	8%
California	544,552,933	16%	39%	30%
Oklahoma	200,682,284	6%	-2%	-9%
Illinois	172,285,839	5%	-33%	-38%
Montana	**163,298,843**	**5%**	**83%**	**71%**
Other States	1,346,813,881	39%	-10%	-16%
Total All States	**$3,430,158,863**	**100%**	**4%**	**-3%**

Source: Massachusetts Institute for Social and Economic Research

Based on interviews, it appears that four other ports along the Canadian border in Montana are significant to the state. The two other 24-hour truck ports on the Canadian border are Raymond in eastern Montana (District 4), and Roosville (District 1), which is the only port between the continental divide and Idaho. The Port of Roosville recently upgraded its facilities and primarily services the lumber industries

on both sides of the border. U.S. customs has a deliberate policy of funneling imports to Sweet Grass and Raymond. The Port of Piegan, just east of the divide on Route 89 (District 3 in Glacier County), has 5-10 percent of the activity seen in Sweet Grass, according to a U.S. customs official. Just west of Piegan, at Glacier National Park, is the Port of Chief Mountain, open from May through September. This port transports very little cargo, but is a major tourist and visitor route into Montana.

10. Transportation Implications

In summary, Montana's primary industries and the potential growth industries in the state include the following characteristics.

- Major industries in the state are based on extraction of natural resources and produce bulk commodities: farm products, forestry products, coal and metal mining, lumber and oil, and gas.
- Montana's major and growing industries include manufacturers of natural resources: petroleum and coal products, wood products, food and kindred products, chemicals, rubber and plastics, leather products, paper products, and furniture.
- Some of Montana's small and growing sectors are manufacturers of technology products, through not necessarily high tech, including industrial machinery, fabricated metal products, electrical/electronic equipment, transportation equipment, and instruments.
- Additional major and growing industries serve tourism, as well as internal demand: eating and drinking establishments, hotels and lodging places and amusements, and technology products. Other industries are positioned to export services: engineering and managerial services, finance insurance, and real estate.

These trends have the following implications for Montana's transportation system:

- **The transportation system must continue to meet the needs for shipping high volume and low value commodities.**

  Looking at all modes of transportation, Montana shipped 0.9 percent of tonnage originating in the United States in 1997, but Montana's shipments accounted for only 0.2 percent of the value of national commodity flows. This indicates an economy based on high volume and low value. Exhibit II–22 below lists commodities shipped in the United States and Montana that accounted for more than 2.5 percent of the value of shipments in their respective economies. Note that more commodity industries in Montana supply 2.5 percent of value to the state economy than industries do in the national economy. Note also, however, that the dominant industry listed below for the United States is electronics, which provides more than 12 percent of the value of all shipments nationally, and

2.9 percent in Montana. Coal accounts for 57 percent of all tonnage originating in Montana, but less than five percent of the value of these shipments.

Exhibit II–21: Montana Commodities by Value of Shipment, 1997

United States		Montana	
Commodity	% of Total Value Shipped	Commodity	% of Total Value Shipped
Electronic/other electrical equipment and components and office equipment	12.5	Gasoline and aviation turbine fuel	12.2
Motorized and other vehicles (including parts)	8.2	Wood products	9.9
Miscellaneous manufactured products	6.1	Fuel oils	5.5
Machinery	6.0	Other prepared foodstuffs and fats and oils	5.2
Textiles, leather, and articles of textiles or leather	5.5	Base metal in primary or semi-finished forms and in finished basic shapes	4.9
Other prepared foodstuffs and fats and oils	5.0	Cereal grains	4.8
Base metal in primary or semi-finished forms and in finished basic shapes	4.1	Coal	4.6
Plastics and rubber	4.0	Machinery	4.6
Printed products	3.7	Mixed freight	4.3
Mixed freight	3.3	Coal and petroleum products, n.e.c.	3.2
Articles of base metal	3.3	Miscellaneous manufactured products	3.1
Pharmaceutical products	3.2	Printed products	2.9
Gasoline and aviation turbine fuel	3.1	Electronic and other electrical equipment and components and office equipment	2.9
Chemical products and preparations, n.e.c.	3.0	Metallic ores and concentrates	2.9
Meat, fish, seafood, and their prep.	2.6	Motorized and other vehicles (including parts)	2.7
		Miscellaneous manufactured products	3.1
		Printed products	2.9

Source: 1997 Commodity Flow Survey for Montana and the United States

Note: Commodities listed account for more than 2.5% of value of shipment originating from the U.S. and Montana.

- **Montana remains heavily dependent on rail for shipping bulk commodities.**

  With an economy structured on bulk commodities and without waterways, Montana is heavily reliant on rail. Nationally, 69 percent of all commodity tonnage is moved by truck and 14 percent is moved by rail. Montana, however, ships 29 percent of its tonnage by truck and 69 percent by rail. Coal is a major consumer of rail freight, and is the heaviest product produced in Montana, accounting for 57 percent of all tonnage originating in the state. For all industries aside from coal, Montana looks more like the U.S. average, but still relies three times more on rail transportation than the nation. (See Exhibit II–22.)

Exhibit II–22: Transport of Core Products by Rail

Product	Rail		Truck		Water		Pipeline	
	MT	U.S.	MT	U.S.	MT	U.S.	MT	U.S.
Cereal Grains	59%	29%	11%	39%	*	18%	6%	*
Other Ag. Products	14%	7%	73%	80%	*	7%	*	*
Metallic Ores and Concentrates	67%	47%	14%	14%	*	7%	*	1%
Fuel Oils	11%	1%	58%	51%	*	11%	*	34%
Coal and Petroleum Products	26%	50%	63%	56%	*	10%	*	28%
Lumber and Wood Products	46%	6%	54%	88%	*	*	*	*

Source: 1997 Commodity Flow Survey for Montana and the U.S.
*Less than 1 percent

Excluding coal, the major agricultural, mining, and manufacturing industries in Montana are all more rail dependent than the industries' national profiles. In Montana, these industries use trucking roughly as much as in the United States. (See Exhibit II–23).

Exhibit II–23: Shipment Modes in Montana vs. the United States

	Total Tons Shipped (1000s)	Truck	Rail	Truck and Rail	Other Modes
Montana	41,209	64.8%	23.9%	1.3%	9.9%
U.S.	9,872,695	75.8%	08.7%	0.5%	14.9%

Source: 1997 Commodity Flow Survey, United States and Montana

- **Economic diversification and service sector growth will increase demand for truck transportation.**

  Measured by tonnage shipped, trucking is the dominant transportation mode of those small goods producing industries in Montana that grew faster than the national rate during the 1990s. Service sector growth will increase demand for truck transportation.

- **Intermodal package delivery is required by growth industries.**

  Growth industries within Montana use trucking and truck-air intermodal transport services. Air transportation and "parcel services, U.S. Post Office and couriers," which contain both air and trucking components, will become increasingly important in shipping lightweight, high value goods. To illustrate this, Exhibit II–24 provides the national rates because state data for many of the small Montana industries are not revealed. Note the dramatic difference in percentage trucked for both instruments and electronics when comparing tonnage to value by mode.

Exhibit II–24: National Transportation Patterns during the 1990s

	By Tons			By Value			
Commodity	Truck	Rail	Air	Truck	Rail	Air	Parcel, U.S. Postal Service/ courier
Electrical/electronic	85%	1%	2%	56%	-	10%	28%
Instruments	68%	-	5%	37%	-	11%	48%
Rubber/Plastics	75%	19%	-	79%	8%	1%	8%
Furniture	94%	1%	-	91%	-	1%	5%
Paper Products	78%	18%	-	83%	10%	-	3%
Machinery	88%	2%	1%	77%	2%	3%	13%
Chemicals	53%	27%	-	66%	8%	2%	15%
Leather Products	77%	-	1%	63%	-	2%	30%
Transp. Equipment	71%	15%	-	59%	12%	9%	-

- **Increased air travel to deliver producer services and increased regional travel demand to deliver and consume services.**

  Industries that generate significant business travel are found within the sectors of finance, insurance, real estate, and services. These sectors all showed robust gains in Montana – the State showed indications of catching up to the national profile in these sectors. Employment in finance, insurance and real estate, and engineering and management services outpaced national growth in the 1990s by 31 percent to 22 percent in the former and 53 percent to 29 percent in the latter. These industries are all forecast to grow considerably over the next 20 years.

These services generate considerable business-related travel. Travel is required to deliver the services and often to purchase the services. In Montana, this probably means growing air travel into and out of the most rapidly urbanizing counties where these businesses are located.

III. Economic Development Issues

The technical analysis detailed above and the TranPlan 21 2002 Update public and stakeholder issue identification provide the agenda of plan update issues addressed in this policy paper. These issues are summarized in this section.

A. Issues Raised by the Public, Stakeholders, and Industry Representatives

The TranPlan 21 2002 Update process used survey results, stakeholder meetings, public open houses, and other information sources to identify issues of importance to Montanans to be addressed in the plan update. The overall results from this issues identification process are presented in a separate document. The issues raised that specifically relate to MDT's role in economic development are summarized below.

1. MDT's Role

- **Economic development should become a factor in MDT's transportation investment decisions.**

  Input indicated that Montanans want MDT to consider economic development in project selection and prioritization. In most parts of the state, there is a general sentiment that the transportation system is not a barrier to economic development.

- **MDT needs to produce more detailed economic impacts and benefits studies.**

  Public input expressed concern that MDT should consider economic benefits versus costs in making investment decisions. MDT should be cautioned not to make politically driven investment decisions that are not the best use of public funds.

- **Montanans' top priorities for MDT's role in economic development are:**

  - Improving commercial air service to Montana.
  - Funding projects to boost business relocation to Montana.
  - Maintaining or updating Montana's existing transportation system.

  Surveys and public input identified these priorities for economic development action.

- **Retain existing and promote new freight rail service to support the Eastern Montana economy.**

  There is considerable concern that Montana will experience a new round of branch line closures as the rail industry consolidates grain terminals. Further, many in the agricultural industry are concerned about their shipping costs and level of rail service. There is strong interest in identifying governmental actions to preserve rail service and to enhance competition.

- **Montana agricultural interests remain concerned about lack of competition with the BNSF.**

  A large majority of the grain shipped from Montana is transported by the Burlington Northern Santa Fe (BNSF) Railroad. The cost of shipping represents about one-third of the value of the crop. Grain producers are interested in opportunities to increase competition and reduce rates. This issue is being addressed by the Governor's Office. BNSF believes that there is competition with motor carriers and that they are responsive to their customers and the marketplace.

- **The Montana agriculture industry needs support from MDT in the effort to control noxious weeds.**

  MDT's past plans to control noxious roadside vegetation have recently been integrated. MDT is in the process of developing a statewide Integrated Roadside Weed Management Strategy. It is in draft form and will be completed by February 2003. This Strategy puts into action and is based on The Montana Weed Management Plan (2001) and the National Invasive Species Management Plan (2001). The development process is being done with the help of Montana Weed Control Association (MWCA) and the Montana Department of Agriculture.

- **Two-lane highways should be expanded to four lanes to attract business.**

  Through public involvement surveys and at some of the open houses, the desire to expand two-lane highways to four lanes to promote economic development was expressed. However, other participants in these meetings are concerned that such activities would offer limited economic benefit and take resources from meeting other, more pressing highway needs.

- **Economic growth in urban areas is different from economic growth in rural areas; infrastructure alone does not guarantee economic development.**

  There appears to be a recognition by a number of transportation stakeholders that building roads will not in itself result in economic development. Therefore, MDT's role can be most effective in creating an environment that supports economic development by managing the existing system efficiently and exercising its administrative responsibilities with the needs of business in mind.

- **MDT's continued support for Missouri River ferries is critical to rural economics.**

  Without MDT support, the Missouri River ferries might cease operating, which would negatively impact local economics.

2. Tourism

- **MDT should give short-term consideration to accommodate visitors and residents during Lewis and Clark Bicentennial.**

  Since the Bicentennial may bring in 6-8 million more visitors to Montana between 2003 and 2006, the transportation system must be ready.

- **Better directional signage would help tourism.**

  Current signage is not effective at drawing people off the highways and into Montana's communities and businesses.

- **Rest areas need to be open year-round and should offer more amenities, such as visitor information kiosks and Internet access.**

  There is considerable stakeholder belief that MDT should do more to enhance the visitor experience and support tourism through the operation of rest areas.

- **A scenic byway program promoting Montana's uniqueness could attract tourism and more funding.**

  There are a number of initiatives that aim to increase the length of time visitors stay in the State by attracting them to additional destinations. Identifying enhancing, and marketing scenic routes are initiatives that the visitor industry is seeking to pursue.

B. Economic And Growth Issues Raised By Technical Analysis

The technical analysis identified the following issues to be considered in the TranPlan21 2002 Update.

- **The principal transportation-related barrier Montana industry faces is distance from markets.**

  The economic analysis demonstrated that the primary transportation-related competitive disadvantage that Montana faces is its distance from markets. The current transportation system provides an extensive network for getting products to markets. There do not appear to be any corridor or segment-level capacity constraints on this network. Analysis indicates that the highway system does not provide any significant barriers to the performance of Montana's basic industries. Growth forecasts indicate that future constraints will occur in Montana's most urban counties.

Further, economic growth analysis indicates that in Montana's lagging regions new infrastructure is unlikely to eliminate the competitive disadvantages of these areas, namely the size of and level of skills in the work force, the long distance to market, and the scarcity of inputs and access to raw materials. MDT is undertaking a Highway Reconfiguration Study that will examine this issue in more detail.

- **Montana's basic industries are heavily dependent on motor carrier and rail services in the existing transportation system.**

  Montana industry ships large volumes of low value, bulk commodities. The cost of shipping is a high proportion of the costs of doing business. Montana has a strong interest in ensuring that it has a regulatory and administrative environment that supports motor carrier efficiency. Current industry is dependent on the efficient use of the existing transportation system. Basic industries are becoming more productive as agricultural and mining output has increased with decreasing employment levels.

- **Montana has a strong policy interest in the preservation of rail services to support existing industry.**

  TranPlan 21 2002 Update analysis indicates the continued importance of rail services to Montana's economy. This is most notable for mining and agricultural commodities.

- **To support economic development Montana will need to expand the transportation system in the faster growing parts of the State.**

  Growth over the next 20 years will be concentrated in those communities that are already the fastest growing. Further, the industries that offer the greatest opportunities for diversification are most likely to locate in these areas. Therefore, there will be transportation system development needs to make these locations competitive and to accommodate the growth that occurs there.

- **The modal implications of economic growth trends are increased importance of:**

  - Package delivery and highway freight.
  - Air-highway intermodal freight.
  - Air transportation service.

  Montana's faster growing industries and those that offer the best prospects for economic diversification will generate increased demands for truck and air transportation.

- **Through planning, investment, and policy action, Montana will need to ensure that new requirements for motor carriers, air transportation, and intermodal services are addressed.**

  Analysis indicates that manufacturing growth and service economy growth will require a transportation system that continues to allow efficient freight mobility as growth occurs. In addition, MDT will need to address new intermodal demands as they occur. This will likely include both air-truck and truck-rail connectivity.

- **Growth will be concentrated in the most urban counties requiring corridor planning and management.**

  Economic and population growth analysis indicates that growth will be geographically concentrated and that MDT will need to ensure effective corridor planning and management to accommodate this growth and maintain mobility.

IV. Policy Goals and Actions

This section lists the potential range of actions that MDT could take to address issues raised by the technical analysis and stakeholder input. The actions that MDT can take to support economic development are as follows:

- Supportive actions: these are actions to help retain the existing foundations of the economy by preserving its efficient operation.
- Reactive actions: these are actions that are demand-driven. They respond to new needs created by the ongoing economic transitions that Montana is experiencing.
- Proactive actions: these are actions that seek to maximize new economic opportunities. They involve investing in strategic improvements to the transportation system and supporting state and local economic development initiatives to generate economic diversification.
- Informational actions: these are actions that clarify and communicate what transportation investments can and cannot accomplish in support of economic development.
- Institutional actions: these are the organizational actions necessary for MDT to strengthen its capacity to support economic development.

The roles that MDT can take to support economic development fall into three categories:

- Investments in transportation infrastructure. These investments are constrained by state and federal law depending on the funding source.
- Policy support and advocacy. This role does not involve funding a particular mode but involves advocacy or other measures to support the State's policy objectives. For example, supporting the federal Essential Air Service program would fall under this category.
- Technical support, administration, and coordination. This role does not involve direct investment but administrative and technical support.

The following policy goals and actions are considered for inclusion in the TranPlan 21 2002 Update:

POLICY GOAL A: Preserve the efficient functioning of the transportation system used by Montana's export-oriented ("basic") industries to access regional, national, and international markets.

Purpose: Preserve the existing transportation network used by the traditional backbones of the state's economy: coal and metal mining, forestry, lumber products, and agriculture.

Rationale: Montana's large and mature resource industries generate the major freight travel in Montana. This policy goal recognizes that Montana has an extensive highway and rail system with adequate capacity to meet the transportation needs of Montana's basic industries. MDT's goal is to preserve this system while addressing the infrastructure needs required to accommodate growth and advance the economic diversification opportunities identified in the TranPlan 21 2002 Update analysis.

ACTION A.1: Work with Montana industry and shippers on a continuing basis to identify infrastructural, regulatory, and administrative barriers to their efficient use of the transportation system.

MDT should conduct an annual survey or hold annual focus group discussions with representatives of Montana's basic industries, the motor carrier industry, the railroad industry, and other shippers that serve these industries to identify regulatory, administrative, and infrastructure constraints. It would also enable identification of emerging needs or issues based upon trends in these industries. These constraints would be identified annually and an action plan specified for addressing them through MDT's existing business processes. The action plan could only address those issues that fall under MDT's jurisdictional authority.

Level of Effort:

ACTION A.2: Use input from A.1 and technical analysis to identify the freight mobility needs of Montana's basic industry on the segments of the state highway system where growth is forecast and specify strategies for addressing these needs.

This action addresses the degradation of level of service that is forecast for a number of the major arterials that pass through Montana's major cities. This degradation will increase travel time, reduce reliability, and increase user costs. It is in these areas that, over the TranPlan 21 2002 Update horizon, growth will have the greatest impact on the productivity of the transportation system. This action should target investment in those areas where travel time and reliability will be reduced due to growth and land development patterns. Freight-specific strategies include building truck bypasses, designating truck routes, and preserving arterials in the growing areas abutting Montana's larger cities. MDT's access management initiative can also support this action. The Reconfiguration Study can identify types of improvements likely to provide the most economic benefits.

Level of Effort:

ACTION A.3: Continue to provide state-level leadership in regional initiatives to increase the productivity of the motor carrier industry.

MDT should continue to participate in state and regional initiatives that will increase the productivity of the motor carrier industry and reduce the shipping costs to their customers. This action includes MDT's ongoing investments in weigh-in-motion facilities and other initiatives to improve the efficiency of MDT's administrative and regulatory role with respect to motor carriers.

An element of this action would evaluate opportunities to provide price competition with freight rail for grain shipment. Issues to consider are:

- Evaluating special projects to provide access to additional transportation sources, such as the Columbia – Snake River.
- Evaluating Motor Carrier productivity policy issues.

The intent is to determine options available that could increase competition.

Level of Effort:

ACTION A.4: Conduct quarterly meetings with rail industry representatives, monitor developments in the industry, and work with the industry where possible to preserve the existing rail system.

This action recognizes that Montana's basic industries are dependent on rail. The competitiveness and profitability of Montana exporters is greatly affected by their access to rail and the cost of rail transportation. Further, output levels and shipment volumes have increased. Rail services are provided by private industry. However, Montana's shippers are concerned about the impact that current operational decisions and the continuing reorganization in the rail industry has on rail services. This action will involve dialogue between rail providers and the State. Through this dialogue, areas of common interest between the industry, shippers, and the State can be identified. The intent of the action is to identify opportunities for communities, the State, and the railroads to partner in order to preserve the existing system and improve the services available to Montanans.

The dialogue is intended to provide a forum for issues regarding:

- Future of branchlines
- Intermodal pricing practices
- Opportunities for backhaul into Montana

Level of Effort:

ACTION A.5: Update the State rail plan to identify potential highway and rail service impacts arising from structural change in the rail industry, and define governmental actions to address them that will support economic development.

This action recognizes that the State, through MDT, has a continuing interest in rail planning. Such planning recognizes that the rail infrastructure and rail services are provided by private enterprise. In Montana and nationally, there has been a trend for government to be less involved in rail transportation. The action recognizes that the investment and operating decisions of the rail industry impact the economies of Montana communities as well as MDT's management of the highway system. The action will identify the intermodal

needs arising from the consolidation of grain elevators and the hauling of grain longer distances to these elevators.

Level of Effort:

ACTION A.6: Provide technical support to Montana communities and airport operators to preserve the federal Essential Air Service Program in cooperation with the Governor's Task Force.

This action involves MDT's technical support and state-level leadership, in cooperation with the Governor's Essential Air Service task force, to advocate for the continuation of the Essential Air Service passenger subsidies. The federal government provides these subsidies to Big Sky Airlines for air service to communities in eastern Montana.

Level of Effort:

POLICY GOAL B: Monitor and address capacity needs arising from Montana's economic growth trends.

Purpose: To respond to emerging transportation investment needs for the coming decade.

Rationale: TranPlan 21 2002 Update analysis indicates that the greatest growth of jobs and income is in industries that produce higher value added products, typically in smaller plants, often located on the fringe or outside of Montana's urban centers. While that trend is starting from a relatively small core of manufacturing activity in the state, it is already emerging as one of the most visible elements of new economic growth for Montana. In addition, over the next 20 years, service employment of all types will be the fastest growing part of the economy. This policy aims to provide a planned response to these trends.

Many of these new industries have specialized products and services with national (or in some cases, international) markets. This trend, together with increasing national markets for manufactured products, is shifting needs for freight movement.

ACTION B.1: Specify strategic economic development transportation linkages based on emerging travel demands and findings from the Highway Reconfiguration Study.

The action is to identify the infrastructure network required to meet the emerging travel demands on Montana's economy. The action is not to define system-level development objectives, such as divided highways, but performance standards for the productivity or efficiency of the transportation system. MDT's congestion management system would provide the starting point for this analysis because it identifies those parts of the network that have the most demand-driven capacity constraints. The findings from the Reconfiguration Study may also identify demand-driven transportation needs to support this analysis. Models and other analysis tools developed for the Highway Reconfiguration Study will also be used for this analysis.

This action involves MDT defining "strategic transportation linkages for economic development." The action should incorporate multi-modal corridors and facilities that connect major locations for Montana's core industries and its projected growth industries. It should be designed on the basis of performance standards for highway access (in terms of intercity travel times, reliability, and routing circuitry), airport access (in terms of access roads and capabilities for handling corporate jets, and travel in nighttime, winter, and inclement weather), rail access (in terms of areas served and locations of intermodal facilities), and international transportation (including access to and capabilities of airport, highway, and rail trans-border movements). The focus on reliability includes the ability of time-sensitive trucks to pass tractors, slower-moving vehicles, and traffic accidents in a timely manner.

There are examples of such strategic economic development transportation networks. They include Illinois DOT's Economic Corridors (Lifelines Program), Georgia DOT's and Mississippi DOT's Economic Development Highways, Wisconsin DOT's Corridors 2020 and TransLinks, and Minnesota DOT's Interregional Corridors Plan. Each of these networks defines a priority intercity (trunk highway) network, and then determines road width needs to handle heavy trucks, serve rail and air intermodal transport hubs, and ensure high reliability of vehicle flows along those inter-city links. The Wisconsin system goes further as the state airport system plan is currently being integrated with state highway planning. This action would be crafted in a way applicable to Montana.

Level of Effort:

ACTION B.2: Identify and address deficiencies in the strategic transportation network.

This action can be accomplished through dialogue with leaders of growth industries to determine their needs and obtain input on strategies to address them. It would be further supported through technical analysis to forecast travel demand on the network. The deficiencies could be addressed through construction, advocacy, or policy changes. The action would be coordinated with local economic development organizations, MPOs, and local jurisdictions.

Level of Effort:

ACTION B.3: Consider economic development in the evaluation for prioritizing and scoping highway reconstruction projects.

The intent of this action is that MDT, when prioritizing reconstruction projects, with "other things being equal," would prioritize projects based upon their importance for economic development. Implementation will require establishing clear performance criteria for evaluating economic development impacts. To be consistent with TranPlan 21 2002 Update recommendations, these criteria should focus on whether or not the project addresses a deficiency in the strategic network, a user cost savings, or a travel time reliability

enhancement. MDT will use the model and other analysis tools from the Highway Reconfiguration Study to analyze relative economic benefits.

Currently, when reconstruction projects are designed, they are designated as either "reconstruction" or "reconstruction with capacity." Projects prioritized under this action should be designated "reconstruction with capacity and economic development." This would indicate to project delivery staff that there are economic development considerations that need to be identified and addressed during project scoping.

Level of Effort:

POLICY GOAL C: Support state and local economic development initiatives to maximize new economic opportunities.

Purpose: To support Montana's state-level economic development initiatives within established policies and practices.

Rationale: MDT is not an economic development agency and does not set economic development policy; transportation demand arises from the level of economic activity in Montana.

The TranPlan 21 2002 Update analysis identified a number of industries that are expected to have high growth nationally. In Montana, these industries are small but showing signs of higher than average growth potential. They include food products, computer technologies, web and telephone based financial service centers, machinery/fabricated metal products, electronics/instruments manufacturing, and chemical/plastic products. The web site for the Governor's Office of Economic Opportunity also highlights many of these same industry sectors in its promotion of "Montana Success Stories." This policy goal will be implemented through actions that MDT takes to support economic development initiatives aimed at business attraction and retention.

ACTION C.1: Support business retention, recruiting, and other related activities of the Governor's Office of Economic Opportunity.

MDT will support the actions of the Governor's Office of Economic Opportunity to implement its strategic plan. The action will ensure that MDT's plans and investments will support Montana's economic development strategy. The success of business retention and recruiting efforts to diversify Montana's economy and attract new growth industries will depend on how well the state is seen as meeting the needs of those industries. A major consideration in locating businesses is how well a candidate location rates in terms of (1) access to an appropriately skilled and stable workforce, (2) reliable access to materials, other inputs, and business partners at a reasonable cost, and (3) reliable access for delivery of products and services to outside national/international customer markets in a timely manner. Transportation access features are typically key considerations. MDT is in a position to support and enhance business attraction efforts, though it can do so only if

transportation planning efforts (for multi-modal access linkages and terminals/nodes) are well coordinated with economic development efforts.

This latter issue pertains to the fact that state business recruiters routinely work on a confidential basis with businesses that are considering locating or expanding in a state to help them identify available buildings, sites, and communities. In a growing number of states, the economic development agency identifies key site locations for targeted industries and formally develops lists of places that meet those needs. A problem arises because a number of outside businesses are requesting sites along four-lane roads only, and the economic developers are obliging them by only selecting such sites. Although well meant, this undermines MDT's plans for high-quality two-lane roads with shoulders, and it can reinforce regional economic disparities associated with the locations of two-lane versus four-lane roads. Only a coordinated dialogue can ensure that both economic development efforts and transportation investment decisions are made in a mutually reinforcing manner.

Level of Effort:

ACTION C.2: Establish an economic opportunities program to help fund roadway projects that support business attraction and retention efforts.

This action uses a portion of MDT's state highway funds to finance projects that support job creation and/or retention. The action would use state funds to support business retention and attraction efforts. The funds would be available to assist state and local economic development officials attract and retain business. The funds would be used flexibly to meet emerging needs. For example, the construction of improved highway access into an industrial site may be a deal-maker for business attraction and the program would provide funds to do this. The funding program will establish standards to evaluate projects based upon employment created, income generated, and the leverage of private and other public investment by MDT dollars.

Due to restrictions in state law, only highway projects will be eligible for funding through the program. These projects would not be restricted to the state system. All projects would require financial participation by the facility owner or operator. This will help ensure a strong local commitment to the project. The program should be administered with the understanding that funds will be expended only where projects meet the specified criteria. Even if there are not enough projects, the criteria would not be relaxed. The program will fund projects of negligible or marginal economic benefit simply because funding has not been requested. Implementation of this program will need to address legislative constraints. In Montana, programs that use state special revenue account funds for non-highway projects require legislation to address the non-diversional clause requirements of the Montana constitution.

Similar programs exist in other states. These include Oregon DOT's Immediate Opportunity Fund, Florida DOT's Transportation Outreach Program, New York State DOT's Industrial Access Program, Iowa DOT's Railroad Economic Development Program and "RISE Program" (for roads), Wisconsin DOT's Transportation Assistance Program,

Maine DOT's Industrial Rail Access Program, Illinois DOT's Economic Development Transportation Program, Mississippi DOT's Economic Development Highway Program, and Michigan DOT's Freight Economic Development Program.

Level of Effort:

ACTION C.3: Coordinate with and provide support to local economic development initiatives.

This action requires MDT to coordinate with and provide support to local economic development initiatives. A number of local and regional organizations have initiatives to attract new businesses and retain and help existing business to expand. When requested, MDT would provide planning assistance, transportation expertise, and other support.

The planning assistance needs to be based on the understanding that new and improved transportation facilities will not by themselves lead to new business activity, but that it can be "leveraged" as part of a broader economic development strategy to attract and grow local business activity. Transportation expertise can be provided through the District Office. The coordination will identify the type of support sought for local economic development initiatives. The support may be operational and related to traffic management, signage, and signal operation, or it may involve infrastructure improvements. Desired infrastructure improvements would be eligible for funding consideration through implementation of Action C.2.

Models include a highway and economic development guide for regional planning organizations produced by the Appalachian Regional Commission and a guide for metropolitan areas produced by the New York State DOT, as well as a regional economic development and transportation needs book produced for district offices by Wisconsin DOT.

Level of Effort:

ACTION C.4: Identify airport improvements and statewide aviation strategies that will support economic development as part of Montana's continuous statewide aviation planning process.

This action would conduct an aviation-related economic development assessment as part of MDT's statewide aviation planning. Traditionally, such efforts have included an economic impact analysis. This action should not do that. The intent is to identify strategic issues that can be addressed by MDT and Montana airport operators to support economic development. It should also identify specific airport improvements necessary to support economic development. The analysis should address passenger, freight, and business-related general aviation. Strategic issues of importance include the growth in package delivery and the changing nature of intermodal operations. For example, Federal Express has located its regional distribution center at Great Falls International Airport.

Implementation of the action will be dependent on the Federal Aviation Authority's agreement to fund the analysis as an element within the system plan.

Level of Effort:

Action C.5: Provide state-level leadership to evaluate whether there are possibilities for reducing the cost, and increasing the frequency and reliability for out of state air travel.

This action involves MDT providing state-level leadership to conduct a study with airport operators, industry representatives, and other stakeholders to assess industry trends and market opportunities. Recognizing that air transportation services are provided by private industry in response to traveler demand, the study would:

- Compare Montana's air service to service from other regional states.
- Examine opportunities for enhancing service to and from Montana by concentrating long-distance service and non-stop service at a designated airport to achieve higher volumes of flights to and from the state.
- Study options for establishing a "hub and spoke" system in Montana, where in-state flights feed into a core airport.

The outcome of the analysis will be strategies for ensuring Montana has the air transportation services required for economic diversification.

Level of Effort:

ACTION C.6: Participate in multi-state and regional initiatives that facilitate international trade by identifying and addressing bottlenecks.

This action involves the continued participation by MDT in multistate trade corridor initiatives. The 2002 TranPlan 21 Update analysis findings indicate that Montana is not experiencing a large growth in international trade, even though it has no corridor-level capacity constraints to impact international trade. In addition, the principal bottlenecks Montana industry faces are in other states. The intent of this action is to focus on addressing bottlenecks that impact travel time and travel reliability. MDT will not emphasize one corridor over another in implementing this action because there are multiple official and unofficial trade corridors in Montana.

Level of Effort:

POLICY GOAL D: Support the tourism industry through promoting access to recreational, historical, cultural, and scenic destinations.

Purpose: To factor the important role that the highway system plays in Montana's visitor industry into MDT's planning, investments, and operations.

Rationale: The visitor industry is a large and growing component of the Montana economy. The visitor industry through business planning has identified a number of opportunities for MDT to enhance the visitor experience and partner to support the development of the tourist industry. The objective is to increase the length of out-of-state visits by increasing the number of destinations on offer.

ACTION D.1: Promote tourism through improved visitor rest areas and co-location of travel information centers.

This action should be implemented in coordination with other actions that address rest areas. The action recognizes that 90 to 95 percent of out of state visitors to Montana arrive by car and most other visitors arrive by air and then rent a car. Rest areas are a part of the visitor experience. Further, the Montana tourist industry considers rest areas as prime locations for providing travel information. This can motivate tourists to stay longer and visit other attractions. As part of action implementation, tourist considerations should be addressed in establishing an overall rest area level of service policy. Rest area design and maintenance should consider access for buses, trucks, and recreational vehicles.

Level of Effort:

ACTION D.2: Support state and local agencies to market tourist travel and tourist routes.

Tourism is one area where Montana's natural advantages are clear. Most visitors drive into the state or fly in and then rent a car to drive within the state. Montana's highway system is a key element for tourism and is effectively a transportation service. Driving on Montana's scenic routes is a large element of many visits. MDT should continue to partner with agencies such as Travel Montana, the Montana Tourism and Recreational Initiative, and other state and federal agencies, to enhance the availability of visitor support information and services. Elements may include efforts to enhance and/or initiate:

- MDT participating on the Travel Montana Tourism Advisory Council.
- Addressing tourism-related needs at visitor rest areas and participating in travel information centers.
- Addressing tourist needs on the state's multi-modal transportation maps.
- Providing special signage to promote local businesses and attraction.
- Providing Web-based visitor travel information or links to other Montana tourism-related sites.
- Assisting groups organizing special events with route planning and traffic management.

Level of Effort:

ACTION D.3: Coordinate with federal agencies, tribal governments, neighboring states, and Canadian Provinces.

This action involves coordinating with the appropriate federal, tribal, and other agencies that develop and manage recreational use of land in Montana. These activities generate increasing and sometimes special travel demands. The intent of the action is to coordinate MDT's planning and investment decisions with these activities.

Level of Effort:

POLICY GOAL E: Develop MDT's organizational capacity to support economic development.

Purpose: To effectively accomplish MDT's economic development goals and implement the associated actions.

Rationale: For Montana to be successful, MDT must communicate consistently how transportation can and cannot support economic development. Further, MDT needs the organizational capacity to ensure that its staff resources and transportation improvements most effectively address economic development outcomes.

ACTION E.1: Strengthen MDT's capability to support economic development.

This action elevates the importance of economic development in MDT and strengthens MDT's ability to act upon the economic development findings in TranPlan 21. It would also support the ongoing economic development components of the statewide planning process. This would provide a resource to help communicate MDT's role in economic development and coordinate and participate in state and local economic development initiatives as appropriate.

Level of Effort:

ACTION E.2: Communicate MDT's role in economic development, opportunities for Montana firms to do business with MDT, economic development performance objectives, and associated accomplishments.

This action involves MDT establishing and communicating a clear, consistent message regarding its role in economic development and the relationship between transportation and economic development. This will include detailing and communicating the role of the freight mobility in economic development. MDT will identify and use the most effective channels for communicating with Montana businesses the opportunities for doing business with MDT. The action involves providing accountability to Montanans by reporting on accomplishments in meeting these goals. These will be most effective if related back to MDT's economic development performance objectives.

Level of Effort:

ACTION E.3: Monitor and evaluate economic development-driven travel demands and assess the investments required to address them as part of the on-going planning process.

This action involves MDT maintaining a technical understanding of the travel demands generated by the state's economic trends. The TranPlan 21 Update identified changes occurring in Montana's economy that will affect future transportation needs. These include changes in:

- The composition of the state's business activity.
- The location of economic growth.
- Transportation technology and mode requirements.
- National and international cargo markets.

The action involves periodic assessment and monitoring of these changes. TranPlan 21 Update analysis identified the following emerging and continuing economic changes that are shaping Montana's future transportation needs:

- **Time-sensitive shipments**

  The greatest percentage growth of freight is via air and truck, particularly the increase in next-day delivery of higher value and time-sensitive manufactured parts and documents to and from other states. This is fueling growth of overnight courier and parcel delivery activities.

- **Growth and location of freight movements by truck**

  This is increasing needs for reliable and accessible rural-to-city highway routes. It is also increasing needs for efficient trucking and warehousing centers.

- **Importance of airports and air transportation services**

  The growth of services and advanced manufacturing industries in Montana will increase corporate jet and charter jet activity, increasing needs for investment in runway improvements at smaller airports around the state.

- **Intermodal freight**

  Nearly all air freight involves intermodal air-to-truck transfers, so the growth of freight movements by air to outside markets is also increasing needs for reliable inter-city highway routes as well as freight facilities at airports.

Level of Effort:

ACTION E.4: Conduct outreach to representatives of mining industries.

The technical analysis indicates an increase in mine production within Montana. The purpose of the action is to:

- Become familiar with plans and projections from the industries.
- Determine if existing transportation infrastructure will support anticipated mining activity.
- Develop and implement plans, if warranted, to upgrade infrastructure required for mining needs.

Level of Effort:

ACTION E.5: Provide technical support and information so that economic development needs are considered in MPO planning, MDT corridor planning, and project development.

This action ensures that economic development objectives and economic development-related travel demands are understood and addressed across Montana's business areas. This includes MPO planning, corridor planning and studies, project design, and the operation of the transportation system.

Level of Effort:

Attachment A: Methods Used to Estimate Future Output of Commodity Industries

For goods producing industries, we use the following data:

- Output by value and income per industry in 1990 and 1998.
- NPA income projections to 2025 for farming, mining, and manufacturing.

A. Farming

"Farming" as a single sector (not including forest products) is reported by NPA projections and by the Bureau of Economic Analysis. *Therefore, we base our output projection on NPA forecast of income growth.*

Between 1990 and 1998, Montana's farm income declined by 57 percent and its output declined by 46 percent. NPA, however, predicts a 25 percent rise in farm earnings between 2000 and 2025 (32 percent from 1998), despite a 13 percent loss of employment in this sector.

The Farming sector contains multiple industries, some of which may be susceptible to increased automation. To estimate future output from Montana's farms, we did the following:

- Calculated a ratio of output to income for 1990 ($8.48 of output per dollar of income) and 1998 ($10.51 to $1).
- Assumed that this trend toward automation increased on a straight line to 2025 (which would result in a ratio of $14.69 to $1 of income in 2025).
- Applied these ratios to the income totals for farming projected by NPA. These calculations come to $4.4 billion of output in 2025 (based on constant 1996 $s used by NPA). This projection is about 79 percent greater than output reported for 1998, but just about two-and-one-half percent above the 1990 total (underscoring the volatility of a natural resource-based economy) increases of 84 percent and 119 percent, respectively, for these two benchmark years.

B. Other Goods-Producing Sectors

Unfortunately, NPA does not breakdown these sectors. Therefore, we can not differentiate between coal mining, metal mining, and oil extraction, or among large and small manufacturing industries.

We first summed the 1990 and 1998 income data for mining and manufacturing sectors at the industry level, using 1996 dollar values to be consistent with NPA, and projected the net difference to 2025 on a straight line. Second, we compared the total income with NPA income projections:

- Summing of manufacturing industries in 1998 and the difference, 1990 and 1998, straight-lined to 2025 – results in a 2025 income projection of $1.1 billion, which is roughly 34 percent less than the NPA income projection of $1.47 billion. As a result, the lower bound of our output projections based on straight-lining the BEA 1998 industry data can viewed as "conservative" estimates for planning purposes.
- To establish consistency with NPA data, we increased the straight-output by approximately 34 percent. We use these numbers as the upper-bounds of the ranges.
- It is evident that the 1990s were volatile in natural resource economies (with the exception of coal). Aggregate mining data from 1998 is totally unreliable for projections due to mine closings by the metal mining and non-metal mining sectors, both having incurred significant losses when compared to 1990 levels. Metal mining, for example, recorded losses in output (-41 percent) and income (-29 percent) when measuring just the two years of 1990 and 1998. Today, metal mining, benefiting from a strong demand for platinum, is a strong industry in Montana. An economist of the state's Department of Commerce expects the industry to continue its growth. Several non-metal (and non-energy) mines closed during the mid-1990s, including a phosphorate rock mine and a talc mine. Moreover, as mentioned earlier, Montana Department of Commerce officials believe that NPA may be undercounting employment in the mining sector, which might significantly affect income projections (and therefore output projections) for this sector.

Attachment B: Status and Disposition of Original TranPlan 21 Policy Goals and Actions

1995 TranPlan 21 Policy Goals and Actions Economic Development Policy Paper	Status	Disposition in TranPlan 21 2002 Update
POLICY GOAL A. Promote a transportation system that provides cost effective access for Montana's export oriented ("basic") industries to regional, national, and international markets.	Retained and strengthened.	Incorporated under: Policy Goal A. Preserve the efficient functioning of the transportation system used by Montana's export-oriented ("basic") industries to access regional, national, and international markets.
Action A.1. Work with shippers and private providers on a continuing basis to identify barriers to be overcome and transportation improvements that will enhance access to regional, national, and international markets.	MDT has implemented this recommendation through biennial surveys.	Continued and enhanced under: Actions A.1, A.2, A.3, and A.4.
Action A.2. Prioritize support for "basic" industries as criteria in programming and project selection.	Original action not specific enough.	Intent strengthened through Actions A.2, B.2, and B.3.
Action A.3. Work with commercial air carriers to maintain and enhance existing levels of service.	Need for action still holds.	This action continues as A.6.
POLICY GOAL B. Ensure state and local economic development policies, plans, and priorities are factored into transportation planning and programming.	Policy requires greater specificity regarding MDT action.	Original intent retained and strengthened by focusing on what MDT can implement most effectively. Policy Goal C. Support state and local economic development initiatives to maximize new economic opportunities.
Action B.1. Hold annual meetings with Department of Commerce regional development officers to discuss and review long-range plans, identify local and regional industries, infrastructure concerns, and transportation impediments (if any).	This action is not considered the most effective.	Original intent addressed through Actions C.3, D.2, E.2.
Action B.2. Factor state and local economic development program priorities into the programming process.	Retained and strengthened.	Action replaced with alternatives that include contributing to funding transportation infrastructure projects, Action C.2.

1995 TranPlan 21 Policy Goals and Actions Economic Development Policy Paper	Status	Disposition in TranPlan 21 2002 Update
Action B.3. Establish a new city park and rest area program to encourage visitors to contribute to economic development.	Action completed.	
POLICY GOAL C. Engage in multistate and regional initiatives that facilitate international trade.		
Action C.1. Participate in an examination of multistate trade corridor initiatives.	Action Completed.	Current role defined in Action A.6.
Action C.2. Coordinate with planning undertaken by Canadian Provincial Governments of Alberta and Saskatchewan.	Action partially implemented.	Action continues under D.3.
POLICY GOAL D. Promote tourism and access to recreational, historical, cultural, and scenic destinations through transportation planning and programming.	Policy goal retained.	Policy Goal D: Support the tourism industry through promoting access to recreational, historical, cultural, and scenic destinations.
Action D.1. Implement the recommendations of the scenic byway feasibility study.	Implemented as allowed under state statute.	Action no longer holds; referenced study almost 10 years old.
Action D.2. Prioritize and encourage the development of transportation enhancements that promote tourist access.		Intent of the Action is fulfilled and strengthened though funding eligible projects under Action C.2.
Action D.3. Encourage more tourist oriented directional signage.		Action addressed through D.2.
Action D.4. Minimize negative impacts of billboards by implementing recommendations from the Governor's Outdoor Advertising Task Force.	Action completed.	
Action D.5. Maintaining community character that enhances tourism and local economic development will be considered as part of project evaluation.	Ongoing.	The issue and action will be addressed through considering context sensitive design as part of Roadway System performance and not economic development.

1995 TranPlan 21 Policy Goals and Actions Freight Mobility Policy Paper	Status	Disposition in TranPlan 21 2002 Update
POLICY GOAL A: Ensure efficient highway freight mobility.		Addressed through: Policy Goal A: Preserve the efficient functioning of the transportation system used by Montana's export-oriented ("basic") industries to access regional, national, and international markets. Policy Goal B: Monitor and address capacity needs arising from Montana's economic growth trends.
Action A.1. Monitor highway freight corridors and prioritize improvements in these corridors.	Retained.	Addressed through actions A.1, B.1, B.2, E.3, E.4, and E.5.
Action A.2. Identify and address impediments to efficient freight movements in highway freight corridors.	Retained.	Addressed through actions A.1, B.1, B.2, E.3, E.4, and E.5.
Action A.3. Ensure freight corridors are addressed in metropolitan planning organization and other jurisdictional transportation plans.		Not retained, approach focuses on barrier and constraints.
Action A.4. Work with local, federal, and Canadian governments to ensure Montana's border crossing needs are met.	Ongoing.	This is institutionalized into how MDT does business. Free standing action not required.
POLICY GOAL B. Ensure a balanced freight system through preservation of the existing rail and air transportation system.		Restated as: Policy Goal A. Preserve the efficient functioning of the transportation system used by Montana's export-oriented ("basic") industries to access regional, national, and international markets.
Action B.1. Prevent the further loss of rail branch lines by working with the railroad industry to facilitate the preservation of branch lines.	Retained.	Incorporated into Action A.4 and A.5.
Action B.2. Identify and address priority grade separation needs at busy railroad crossings.		Not carried forward as an economic development related action.
Action B.3. Retain existing rights of way in rail corridors.		Not carried forward as an economic development related action.

1995 TranPlan 21 Policy Goals and Actions Freight Mobility Policy Paper	Status	Disposition in TranPlan 21 2002 Update
Action B.4. Work with airport operators to maintain, preserve, and improve levels of commercial air freight service.	Retained.	Addressed through actions A.6 and C.5.
POLICY GOAL C. Improve intermodal connectivity by increasing the use of intermodal freight facilities.		Addressed through Policy Goals A, B, and C.
Action C.1. Encourage the use of, and improve the performance of, existing intermodal terminals with open access to enable efficient transfers between modes.	Ongoing. Addressed through new actions.	Incorporated into A.1, B.2, C.1, C.3.
Action C.2. Encourage the use of existing truck/rail reload facilities and work with private industry in the development of new facilities with open access.	Ongoing. Addressed through new actions.	Incorporated into A.1, B.2, C.1, C.3.
Action C.3. Involve shippers and private sector providers on a periodic basis to improve the MDT's understanding of freight needs.	Retained.	Addressed through A.1.
Action C.4. Include freight access as a component of statewide airport system planning.	Included in new action.	Address issue in C.4.
Action C.5. Ensure that the MDT has in-house modal expertise to address freight issues associated with Interstate Commerce Commission requirements.	No longer applicable.	Issue no longer applicable, action removed.

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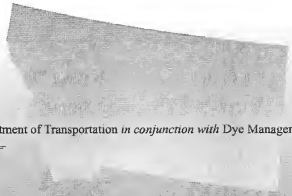
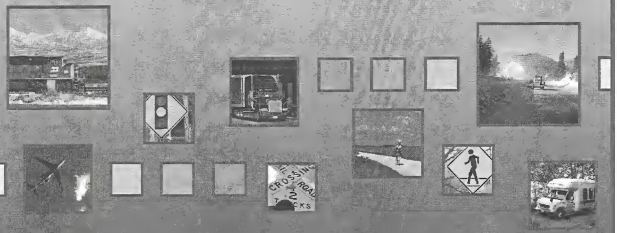
TRANPLAN 21 UPDATE
2002

Traveler Safety Policy Paper

December 2002



Montana Department of Transportation *in conjunction with* Dye Management Group, Inc.



Montana Department of Transportation
Traveler Safety Policy Paper

Table of Contents

I. Introduction 1
- A. Background 1
- B. MDT Managed Safety Activities 5

II. Traffic Safety Trends in Montana 8
- A. Overall Trends 8
- B. Driver Behavior Trends 10
- C. Pedestrian and Bicycle Accident Trends 13
- D. Other Vehicle Accident Trends 14

III. Highway Safety Issues 15
- A. Safety Issues Identified by the Public 15
- B. Safety Issues Identified by MDT Staff 16
- C. Issues from Trends Analysis 18

IV. Policy Goals and Actions 19

I. Introduction

This policy paper describes the current initiatives and potential policy goals and actions that the Montana Department of Transportation (MDT) could implement to improve public safety on the State's public roadways. These goals and actions will be considered for adoption as part of the TranPlan 21 2002 Update process.

The policy paper is organized into the following sections:

II. Traffic Safety Trends. This section presents the overall trends on fatalities, injuries, and accidents in Montana, as well as a few key trends on types and causes of accidents in the State.

III. Highway Safety Issues. This section presents the transportation safety issues of concern to the users and operators of the roadway infrastructure in Montana. These issues were raised through the TranPlan 21 2002 Update issue identification process.

IV. Policy Goals and Actions. This section presents potential actions that MDT could take to address the issues raised by the technical analysis and stakeholder input. These policy goals and actions are long range in nature and address the next 20 years. Policies and actions include investments in special projects, engineering design changes, and procedural actions involving coordination and information sharing between MDT and other state agencies.

MDT includes safety as one of the Department's key missions in serving the public. Since accidents and fatalities cost society lives and economic resources, ensuring public safety is an effective means of supporting the State's general welfare and economy. Safety measures include designing and building well-engineered and safe transportation infrastructure, installing guidance equipment on existing infrastructure, and monitoring and identifying problems in the transportation network. The purpose of this policy paper is to identify what actions MDT can take directly and indirectly to improve the overall safety of the users of the State's roadway system.

A. Background

In Montana, several state agencies have roles and responsibilities involving traveler safety:

- **Montana Department of Transportation.** Maintains the State-owned transportation network. The Montana Department of Transportation's involvement in safety activities is found in several areas:
  - **Rail, Transit, & Planning.** Develops and administers a variety of processes, plans, and programs in support of state and local multimodal transportation programs and projects.

- **Traffic and Safety.** The Traffic and Safety Bureau's State and Community Program Section Chief currently acts as the Governor's Representative for Highway Traffic Safety. The Bureau is involved in five key areas of safety: 1) planning and managing the hazard elimination program, 2) designing hazard elimination projects, 3) assessing safety issues involving human factors, 4) overseeing rail transportation safety, and 5) coordinating the safety management system. For the Hazard Elimination Program, the Bureau identifies and prioritizes projects to eliminate safety hazards, secures federal funding for those projects, and conducts design activities prior to letting contracts for construction. The Bureau oversees programs to identify safety problem areas associated with human factors, such as alcohol and driving, or misuse of seatbelts.

- **Motor Carrier.** Regulates commercial motor carrier industry operators in Montana and enforces state and federal commercial and agricultural motor carrier laws, rules, and regulations. Motor Carrier Services Division Enforcement Officers conduct commercial vehicle and driver safety inspections at all Montana weigh stations, and MCS Patrol Officers conduct inspections on the open road.

- **Engineering.** Manages and conducts roadway designs; develops and sets design specifications and criteria; monitors construction activities, design and engineering standards and specifications that set criteria for the design of roads and freeways.

- **Maintenance.** Manages and conducts repairs and preventive maintenance of state highways, signage, pavement markings, and structures within the highway right-of-way. Conducts winter plowing and sanding, and year-round repairs to the State highway system. Maintenance activities also include managing the State's Road/Weather Information System (RWIS), which monitors and reports the road and weather conditions at 59 key locations throughout the State. Nearly "real-time" photographs of conditions are published on the RWIS Web site on a continuing basis, providing the public with information to determine which routes are safest when making travel plans. MDT schedules personnel and equipment based on current weather and pavement surface conditions. Real-time weather information improves response time, increases winter maintenance efficiency, and minimizes the traveling public's exposure to hazardous roadway conditions. The Maintenance Division is currently developing a Pavement Marking Management System to track and monitor the condition and maintenance needs of pavement striping throughout the State.

- **Aeronautics.** Aeronautics Division's Safety and Education Bureau is responsible for registering Montana's pilots and aircraft. The Bureau manages air search and rescue training and operations, provides various seminars and clinics, and promotes aviation education.

- **Montana Department of Public Health and Human Services.** Manages public welfare and health advocacy programs in the State.

- **Montana Department of Justice.** Oversees and enforces State laws and regulations. Specifically, the Montana Highway Patrol is the State's "lead" commercial vehicle and driver safety agency, and the Motor Vehicle Division is responsible for Montana's commercial driver's license program.

- **Montana Office of Public Instruction.** Manages and assists in educational programs for the State, including drivers education

- **Montana State University – Northern.** Manages the State's motorcycle training program for on-road licenses.

- **Montana Department of Fish, Wildlife, and Parks.** Manages education and training programs for operating off-road vehicles including motorcycles, quadricycles, and snowmobiles. As part of these programs, riders are required to wear helmets.

Exhibit I-1 summarizes these agencies' key safety responsibilities and activities.

Exhibit I-1: Traveler Safety Responsibilities in Montana State Government

Department or Agency	Roles and Responsibilities
Montana Department of Transportation	
Rail, Transit and Planning Division	
	• Monitors and maintains drug and alcohol testing documentation on drivers for rural general public transportation providers who receive Federal Transit Administration funding. • Conducts initial and periodic inspections of transit vehicles. • Through Bicycle and Pedestrian Coordinator, supports bicycle and pedestrian safety activities.
Maintenance Division	
	• Maintains the state and federally owned roadways (snow removal and traction control; pavement preservation; signage and lane markings). • Manages Road-Weather Information System. • Maintains rest areas.
Highway and Engineering Division	
Traffic and Safety Bureau	• Currently designated as the Montana Governor's Highway Safety Representative. • Supports bicycle and pedestrian safety activities. • Monitors safety performance and statistics (alcohol, seatbelts usage, etc.). • Manages federal 402 Program reporting requirements. • Manages the Hazard Elimination Program (identification and funding of projects to eliminate accident prone areas, based on crash data identified by state, county, local, and federal ownership and identified by location and severity). • Provides information on aging driver awareness and limitations program (sponsored and managed by AARP).
Engineering Oversight Bureau	• Reviews and evaluates active construction projects, completes constructability reviews, and formal post-construction reviews.
Preconstruction Bureau	• Completes technical activities related to project design prior to construction; maintains design standards.
Construction Bureau	• Develops policies and specifications for construction projects.
Aeronautics Division	
	• Air Search and Rescue training and operations. • Responsible for air search and rescue in the state through use of a volunteer search network. • Conducts safety clinics for pilots and other professionals involved in the air transportation industry. • Conducts airport safety inspections through an agreement with FAA.
Montana Department of Transportation – Motor Carrier Services Division	
	• Assures safety of traveling public by regulating the commercial motor carrier industry. • Enforces motor carrier laws and regulations (vehicle weight). • Conducts vehicle and driver safety inspections. • Maintains non-safety related commercial vehicle records.
Montana Department of Health and Human Services	
Health Systems Bureau	• Administers the drug and alcohol substance abuse programs. • Licenses ground and air ambulance services, medical technicians and responders, and implements trauma care and injury prevention systems. • Maintains injury prevention specialties, including advocacy on using child safety seats.

Exhibit I-1: Traveler Safety Responsibilities in Montana State Government

Department or Agency	Roles and Responsibilities
Montana Department of Justice	
Highway Patrol Division	
	• Implements the highway traffic safety management (investigations of accidents; enforcement of driving laws; education). • Patrols highways to maintain safe traffic conditions, enforce laws, assists users, and prevent accidents. • Conducts commercial vehicle and school bus safety inspections. • Maintains commercial vehicle and driver safety records
Motor Vehicle Inspection Section	• Inspects commercial vehicles to reduce truck related accidents. • Enforces driver and vehicle safety regulations. • Conducts carrier safety audits. • Provides public safety education programs.
Records Section	• Maintains statewide repository for Division's records and all Montana vehicle crash records. • Compiles crash records submitted by local law enforcement agencies.
Motor Vehicle Division	
Field Operations Bureau	• Conducts driver examinations. • Issues licenses to commercial drivers.
Records and Driver Control Bureau	• Maintains, revokes, or cancels individual and commercial drivers' licenses. • Motivates drivers to obey traffic laws. • Maintains driver records (convictions, accidents, etc.). • Provides drivers with probationary licenses.
Title and Registration Bureau	• Administers license records (including court-ordered suspensions and revocations). • Issues motor vehicle registrations and titles.
Montana Office of Public Instruction	
Traffic Education Program	• Promotes/assists Montana high schools in offering/conducting driver education programs. • Sets guidelines for curricula and requirements for driver education courses. • Provides/sponsors driver education teacher training. • Conducts periodic on-site review of high school driver education programs. • Develops media (public service announcements, curriculum guidelines, driver training materials). • Provides advanced driver education training. • Promulgates rules regarding school bus safety and training.

B. MDT Managed Safety Activities

MDT manages several programs that involve traffic safety. The Federal Highway Administration, National Highway Traffic Safety Administration, and the Federal Motor Carrier Safety Administration conduct oversight of MDT's various safety functions.

- **Montana 402 Program.** This program reflects MDT's compliance with 23 USC 402. As part of the 402 process, the State certifies that it follows the applicable federal statutes, regulations, and directives that affect the State's ability to receive funding for highway activities. Within the 402 Program, MDT identifies and documents the issues

and problems that affect the overall public safety and economy of the State, such as crash demographics, driver hazardous action statistics, railroad crossing safety, etc. The problems are documented on an annual basis to give some indication of the performance of the State in solving them. The 402 Program must abide by the following federal provisions:

- **The Highway Safety Act of 1966 (23 USC Chapter 4).** Passage of the Highway Safety Act authorized the federal government to set and regulate standards for highway design, a mechanism necessary for effective accident prevention. Many changes in both vehicle and highway design followed this mandate. Roads were improved by better delineation of curves, use of breakaway sign and utility poles, improved illumination, addition of barriers separating oncoming traffic lanes, and installing guardrails. MDT has developed and follows design standards and guidelines for roadway design and construction to meet the federal regulations.
- **23 CFR Chapter II (Parts 1200, 1205, 1206, 1250, 1251).** These regulations govern highway safety programs, which establish the guidelines and procedures for operating highway safety programs under the State and Community Highway Safety Grant Program; identify what highway safety programs are eligible for federal funding; establish procedures to invoke the sanctions applicable to any state that does not comply with the highway safety program requirements; establish guidelines for the states to assure they meet the requirements and provide 40 percent political subdivision participation in state highway safety programs; and prescribe the minimum authority and functions of the State Highway Safety Agency established in each state by the Governor under the authority of the Highway Safety Act.

- **Hazard Elimination Program (HEP).** Funded primarily by the Federal Highway Surface Transportation Program (STP) funds, through TEA-21. The purpose of the HEP is to reduce accidents at high accident locations and to encourage engineering improvements that address identified safety needs. This federally funded program requires Montana to identify hazardous locations on all public roads, assign priorities for necessary corrections at these locations, and establish a schedule of improvement projects. Projects on Indian reservation lands are all 100 percent funded by the federal government. Local governments and Indian Nations are invited to participate in this program by submitting proposed countermeasures to identified crash trends. Presently, safety projects are funded with a 90 percent federal share and a 10 percent state fund match. Most projects are located on the state-maintained highway system.
- **DUI.** MDT provides funding to local police agencies to cover overtime costs for police to conduct DUI enforcement activities.
- **Access management.** MDT's access management program looks to increase traffic flow, decrease congestion, and eliminate safety problems through several project and corridor level design standards and criteria. The 1999 Access Management Project identified several recommendations for implementing a statewide program.

- **Corridor or route specific safety activities.** MDT has initiated several programs and projects to improve the safety of travelers in specific areas or along highly traveled corridors:

  - **Climbing lanes/Passing lanes.** MDT has built additional lane capacity in mountainous regions in order to handle slow moving recreational and commercial vehicles, and to provide a means for faster vehicles to pass without using the oncoming traffic's travel lanes.

  - **Route segment plans.** MDT has developed roadway design specifications for particular route segments. MDT has developed specifications to standardize roadway design specifications, which have not been implemented consistently across jurisdictional boundaries.

  - **Rumble strips.** MDT recently reviewed and updated the rumble strip policy, based on input from the public.

  - **Side slope grade reduction.** In an effort to reduce vehicle rollover in the event of accidents, MDT has reduced the slope between roadway surfaces and drainage areas running parallel to the roadway.

  - **Intelligent Transportation Systems.** MDT manages a Web site for public access to roadway and weather conditions, including viewing real time conditions through 11 automated cameras. In addition, the MDT maintains a toll-free number providing updated roadway conditions during winter, and construction reports during the summer.

II. Traffic Safety Trends in Montana

MDT's Traffic and Safety Bureau has identified several problem areas specific to traffic safety in Montana. MDT has collected and analyzed data for accidents on public roadways throughout the State.[1] Overall, the Montana Highway Patrol, using figures from the National Safety Council for costs of crashes, estimates that the economic losses to Montana from motor vehicle crashes are over $712 million per year.

A. Overall Trends

Exhibit II-1 presents a few key trends in traveler safety in Montana: accidents, fatalities, and injuries. Over 22,000 accidents were reported in 2000, with just over half occurring in rural areas. Reported accidents increased by 10 percent over the last five years.

Exhibit II-1: Vehicular Fatalities and Injuries on Montana Public Roadways, 1990 – 2000

	1990	1995	2000	Percent Change		
				1990 – 1995	1995 – 2000	1990 – 2000
MT VMT*	8,332	9,399	9,882	12.8%	5.1%	18.6%
National VMT*	2,147,501	2,422,775	2,749,803	12.8%	13.5%	28.0%
MT Injury Accidents†	5,710	6,993	7,256	22.5%	3.8%	27.1%
MT Rate‡	68.53	74.40	73.43	8.6%	-1.3%	7.1%
National Rate‡	*118.32*	*97.10*	*76.66*	*-17.9%*	*-21.0%*	*-35.2%*
MT Fatalities	212	216	237	1.4%	10.2%	11.8%
MT Rate‡	2.54	2.30	2.40	-10.1%	4.8%	-5.7%
National Rate‡	*2.07*	*1.73*	*1.52*	*-16.4%*	*-12.1%*	*-26.6%*
MT Injuries	8,280	10,255	10,264	23.9%	0.1%	24.0%
MT Rate‡	99.38	109.11	103.87	9.8%	-4.8%	4.5%
National Rate‡	*167.65*	*147.91*	*115.97*	*-11.8%*	*-21.6%*	*-30.8%*

Source: MDT, FHWA, NHTSA, Dye Management Group, Inc. analysis.

*In millions.

†Reported accidents. Data is not easily comparable from year to year due to changes in reporting procedures by local authorities.

‡Per 100 million miles traveled.

[1] TranPlan 21 public input identified several caveats about state accident statistics, especially for non-fatal accidents. For example, non-fatal accidents on reservations may be unreported or may be reported to local or federal agencies that do not relay the information to the Traffic and Safety Bureau.

The following trends highlight traffic and accident statistics over the last ten years:

- Accidents in urban areas have decreased slightly over the last five years; however, in both five-year periods 1990 – 1995 and 1995 – 2000, the number of accidents in rural areas has increased.
- Between 1990 and 2000, fatalities have increased almost 12 percent, while traffic volume (measured in vehicle miles traveled) has increased almost 25 percent. The fatality rate has declined by nearly 6 percent over the same period.
- Fatality rates increased over the five-year period 1995 – 2000 compared to the 1990 – 1995 period, from 2.30 to 2.40 fatalities per 100 million miles traveled. The fatality rate has increased in line with the volume of traffic (4.2 and 4.9 percent respectively).
- Accident and fatality rates have declined significantly on a national level compared to Montana.

It should be noted that data is not easily comparable from year to year due to changes in reporting procedures by local authorities. For example, local public safety agencies do not report all traffic crashes to the Montana Highway Patrol for inclusion in statewide records. In addition, some accidents go unreported, because local agencies may only investigate and report on accidents with fatalities or injuries.

In addition, the number of accidents reported varies because of a change in the rules set by the legislature for reporting accidents based on the value of property damaged. Weather also is a factor in the number of accidents and fatalities occurring from one year to the next. A winter with long and frequent periods of ice and snow impacts the number of crashes.

Exhibit II-2 illustrates how Montana compares to surrounding states. Overall, Montana has the highest fatality rate, yet rates second to Idaho in the number of fatalities. From a national perspective, Montana has a disproportionate number of fatalities when compared to population and vehicle miles traveled.

Exhibit II-2: Safety Statistics for Neighboring States, 2000

State	Population	VMT (millions)	Fatalities	Fatality Rate
Montana	**902,000**	**9,882**	**237**	**2.40**
Idaho	1,294,000	13,534	276	2.04
North Dakota	642,000	7,217	86	1.19
South Dakota	755,000	8,432	173	2.05
Wyoming	494,000	8,090	152	1.88
U.S.	*274,634,000*	*2,749,803*	*41,821*	*1.52*
Montana / U.S. Total	0.33%	0.36%	0.57%	

Source: U.S. Census Bureau, FHWA Highway Statistics, Dye Management Group, Inc. analysis.
Note: Fatality rate per 100 million miles traveled.

The exhibit shows that for 2000, while Montana has approximately one-third of one percent of the country's population, it had over one-half of one percent of fatalities that occurred on the country's roadways.

B. Driver Behavior Trends

Driver behavior is a leading cause of injury accidents and reduced traveler safety. Driving under the influence of alcohol and lack of seatbelt usage are some of the trends that are commonly watched by safety advocates.

- **Driver experience or age**

  Nationally, newly licensed drivers with less than a year's experience have the highest crash rate per number of licensed drivers and are involved in more fatal accidents than any other driver age group. A lack of driving experience and a tendency toward risk-taking contribute to these statistics. This is true in Montana, as illustrated in Exhibit II-3 below.

Exhibit II-3: Crash Rates by Age Group, 2000

Age Group	Crashes per 1000 Licenses	Fatal Crashes per 1000 Licenses
Under 16	222	1.41
16	143	0.92
17	134	0.89
18	124	0.95
19	94	0.38
20	88	0.45
Under 21	*123*	*0.75*
21 – 24	74	0.59
25 – 29	55	0.49
30 – 39	48	0.51
40 – 49	39	0.32
50 – 59	33	0.36
60 – 69	27	0.37
70+	30	0.40
Overall	**49**	**0.44**

Source: MDT, Traffic Information System, Dye Management Group, Inc. analysis.

The exhibit shows that as drivers age, they are involved in fewer crashes, and fewer crashes that result in fatalities, indicating that experience is a strong factor in driver safety. Inexperienced or young drivers are two to three times more likely to be involved in fatal crashes than the population in general.

Between 1990 and 2000, the percentage of crashes involving young drivers in Montana has not changed. In 1990, 23.7 percent of the drivers under 21 years old were involved in accidents. In 2000, this figure had increased to 24.0 percent, a change of 1.3 percent. Over the same period, the percentage of elderly drivers (55 and above) has increased up to 7.1 percent of the driving public. This indicates that elderly drivers are also becoming higher risk drivers; when coupled with the trend in an aging population, this indicates the State may experience an increase in the number of accidents and fatalities per 1000 licensed drivers in the upper age groups.

- **Driving under the influence**

Driving Under the Influence (DUI) is a key contributor to poor driving behavior. Overall, alcohol-related crashes accounted for nearly 10 percent of all crashes recorded in 2000, and alcohol accounts for more than one-third of all vehicular fatalities in the State. It should be noted that most alcohol-related crashes involve only one vehicle. Exhibit II-4 illustrates how age is a contributor in alcohol-related crashes, those crashes in which the investigator determined that alcohol was present.

Exhibit II-4: Alcohol-Related Crashes

Year	Fatal Crashes		All Crashes	
	Alcohol-Related	Percent of Total	Alcohol-Related	Percent of Total
Overall:				
- 1991	80	46.5%	2,332	13.7%
- 1995	71	38.2%	2,313	11.3%
- 2000	74	36.8%	2,211	9.9%
Percent Change	-7.5%		-5.2%	
Drivers Under 21:				
- 1991	15	45.5%	584	9.8%
- 1995	14	36.8%	492	6.4%
- 2000	13	26.5%	497	6.2%
Percent Change	-13.3%		-14.9%	

Source: MDT Traffic Information System, Dye Management Group, Inc. analysis.

The exhibit shows that drivers age 21 and under experienced a greater decrease in fatal and injury accidents than the general population.

- **Seatbelt usage**

Montana's seatbelt law was enacted in 1987. Since then, overall seatbelt usage has climbed from approximately 33 percent to over 75 percent in 2000, as shown in Exhibit II-5 below.

Exhibit II-5: Seatbelt Usage Rates, 1991 – 2000

	1991	1995	2000	Percent Change		
				1991 – 1995	1995 – 2000	1991 - 2000
Interstate	80.9%	86.4%	91.3%	6.8%	5.7%	12.9%
Primary	72.8%	75.0%	79.5%	3.0%	6.0%	9.2%
City	41.4%	51.3%	58.3%	24.2%	13.6%	41.2%
Other*	49.3%	57.5%	65.5%	16.6%	13.9%	32.9%
All Roads	64.5%	70.1%	75.6%	8.7%	7.8%	17.2%

Source: MDT Traffic and Safety Bureau, Dye Management Group, Inc. analysis.
*Includes rural roads.

The exhibit shows that seatbelt usage is highest on the interstates and primary system; usage on city and rural roads is the lowest (58 percent and 66 percent respectively). Vehicle occupants may think that there is less chance of serious injury on local and rural roads. Occupant restraint usage increased statewide in the last decade, with highest growth in the cities.

Observed usage data indicates that seatbelt usage may be based on time of year and expected duration of individual journeys, with the summer months experiencing slightly higher levels than winter months. This variation may be caused by a greater percentage of short trips during the winter. In the summer, tourist activity, longer trips, and higher occupancy trips tend to increase seatbelt utilization.

MDT has established a policy requiring seatbelt usage for its employees. MDT's contractors and subcontractors are subject to the State's seatbelt law.

- **Hazardous driving**

Exhibit II-6 shows that the leading causes of crashes in 2000 were alcohol, excessive speed, failure to yield, and careless driving. Of those, careless driving and speed contributed to most of the crashes. Most categories of crashes saw significant increases.

Exhibit II-6: Causal Factors in Accidents

Year	Alcohol	High Speed	Failure to Yield	Careless Driving	Others*
1991	1,436	2,620	3,125	3,264	854
1995	1,532	2,887	3,902	4,133	1,024
2000	1,818	4,396	3,627	5,928	1,371
Percent Change ('95 – '00)	*18.7%*	*52.3%*	*-7.0%*	*43.4%*	*33.9%*

Source: MDT Traffic and Safety Bureau FY2002 Problem Identification Paper, Dye Management Group, Inc. analysis.
Note: Causal factors are determined by the crash investigator; their views are subjective, based on the evidence and their best judgment.
*Includes improper turning and improper backing. Other causal factors include following too close, disregarding signage, improper passing or lane change, and going the wrong way. These are not detailed in the source material.

- **Motorcycle helmet usage**

  While motorcycles are a small portion of the total number of vehicles on the road, and log a small portion of the vehicle miles traveled each year, motorcyclists are at much greater a risk of injury and fatality when involved in accidents. In 2000, motorcycles were involved in 332 crashes, only 1.5 percent of the total. However, 13 motorcyclists were killed, representing over five percent of the State's total road fatalities.

  Montana has a mandatory helmet law only for riders 18 and under. Statistics on helmet usage in 2000 crash reports indicate that overall, only 40 percent of the motorcycle riders were wearing helmets. A sample survey of observed motorcycle riders indicates that helmet use is relatively low on city and local roadways. Only 34 percent of the riders on city streets wear helmets.

C. Pedestrian and Bicycle Accident Trends

Overall, about eight percent of all traffic fatalities per year are non-motorists. A large number of bicycle-related accidents and injuries are unreported each year.

- **Vehicle – pedestrian collisions**

  Overall, vehicle-pedestrian incidents make up a small percentage of the total accidents occurring on Montana's roadways (only 0.7 percent in 2000). Vehicle-pedestrian crashes account for 5.5 percent of all fatal crashes.

Exhibit II-7: Vehicle-Pedestrian Collisions, 1991 – 2000

	1991	1995	2000	Percent Change		
				1991 – 1995	1995 – 2000	1991 – 2000
Crashes*	146	185	161	26.7%	-13.0%	10.3%
Fatalities	12	12	11	0.0%	-8.3%	-8.3%
Percent of all fatalities	7.0	6.5	5.5			
Injuries*	147	171	139	16.3%	-18.7%	-5.4%

Source: MDT Traffic and Safety Bureau, Dye Management Group, Inc. analysis
*Reported. Data is not easily comparable from year to year due to changes in reporting by local authorities.

Traffic and Safety Bureau statistics on pedestrian injuries by activity and location (in intersections, walking in roadway, working on vehicle, and playing in the street) indicates that over the past 10 years, 40 percent of all pedestrian fatalities were caused at intersections or cross walks. Since 1995, injuries to people playing in the street have increased by 30 percent (from nine to 32 pedestrians between 1995 and 2000). It should be noted that many pedestrian injuries are not reported.

- **Vehicle – bicycle crashes**

  Overall, bicycle crashes with motor vehicles represent just less than 1 percent of total crashes, but represent over 3 percent of all fatalities. Crash statistics however, seriously underestimate the actual number of bicycle-related crashes and injuries because only a small percentage of crashes are reported. Bicyclist injuries are concentrated in the population aged less than 19 years, although there is a growing number of injuries being reported in the higher age groups, 35 and older. The Over 55 age group experienced a growth in bicyclist injuries of 21 percent per year since 1991. The rising popularity in recreational bicycling probably has contributed to this trend.

D. Other Vehicle Accident Trends

- **Run-off-road crashes**

  Over 47 percent of all fatal crashes that occurred in Montana between 1995 and 2000 involved vehicles running off the road. On average, the number of fatal run-off-road crashes is increasing by about 3 percent per year.

Exhibit II-8: Fatal Run-Off-Road Crashes in Montana, 1995 - 2000

	1995	1996	1997	1998	1999	2000	Total
Off-Road Crashes	77	76	109	102	111	88	563
- Single Vehicle	75	76	107	101	108	88	555
- Multiple Vehicles	2	0	2	1	3	0	8
All Fatal Total	186	179	223	208	194	203	1,193
Off-Road / All Fatal	41%	42%	49%	49%	57%	43%	47%

- **Truck involvement in crashes**

  The number of accidents involving trucks on Montana's roadways has increased over the last 10 years, from 959 in 1991 to 1,346 in 2000. The percentage of fatal crashes involving trucks has increased from 21 to 24 accidents.

  Montana has allowed commercial vehicles with two and three trailers to operate for over two decades. These long combination vehicles (LCV) have proven to be the safest commercial vehicles on the road. Multiple-trailer vehicles make up a small portion of the overall commercial truck fleet operating in Montana. Most truck accidents involve vehicles with no trailer or those with a single trailer.

- **Vehicle – train collisions**

  Motor vehicle collisions with trains are a relatively rare event, but the severity of such collisions tends to be very high. On average, about 21 crashes occur per year in the state; 75 percent of these occur in rural areas.

III. Highway Safety Issues

Safety issues of concern to Montanans were identified through open house forums, through mail and telephone surveys with the public, through discussions with MDT staff, and through analysis of traveler safety trends and data. It is important to note that as detailed in Exhibit I-1, MDT does not have jurisdiction over many of the policy areas and programs that improve highway safety.

A. Safety Issues Identified by the Public

The TranPlan 21 2002 update process used stakeholder forums, mail-in surveys, and telephone surveys to identify the key safety issues of concern to the citizens of Montana. Safety issues identified through this mechanism include the following:

- **Roadway capacity**

  A roadway safety issue raised by the public is the perception that emergency equipment responding to incidents are experiencing more delay due to insufficient access, traffic control, and intermodal traffic congestion. The trend in longer railroad train-sets is also believed to prevent emergency vehicles from moving from one side of town to the other. In Billings alone, these longer trains have blocked several busy downtown intersections with at-grade crossings. In addition, people try to run through the warning lights at at-grade railroad crossings. The location of a switching yard near busy traffic intersections could be causing some of the delays.

  In some areas, particularly mountainous regions, no-passing signs and double yellow lines are needed. In addition, more passing lanes in mountainous regions would improve safety.

- **Bicycle and pedestrian safety**

  Bicycle advocates believe that there is insufficient roadway width for large vehicles (RVs and trucks) to pass bicycles, especially in No-Passing Zones. More public service announcements educating motorists, bicyclists, and pedestrian users regarding safety are also needed.

  Effective enforcement of traffic laws is an issue that may require additional legislative action to set standards. There is a perceived failure of the police to enforce the driving laws, which in turn discourages use of existing facilities (for example, the failure of motorists to yield to pedestrians at crossings discourages use of the crossing).

- **Roadway design and human factors**

  Public discussion identified some roadway designs that do not accommodate pedestrians and elderly drivers. In addition, motorcyclists feel that more signage is needed to warn of uneven pavement conditions ahead. As baby boomers age, their transportation needs become increasingly important. Wider road markings and striping and improved signage may be required. Most roadway design standards provide wider, expansive roads almost impassable to some pedestrians. In addition, dust kicked up from under-maintained gravel roads can impair driver vision.

- **Personal safety**

  Personal safety is a key issue for both the public and commercial drivers in Montana. Identified problems with rest areas in the State include an insufficient number of rest areas requiring additional travel time between stops; the lack of parking space, requiring truckers to use on and off-ramp shoulders; and insufficient operating hours and facilities. Compared to other parts of the country, Montana's rest stops are further apart, increasing the likelihood of more fatigued drivers on the State's highways. Unlike other states, many Montana rest stops are not open year round. Upgrading the facilities to include traveler information (road conditions, other rest facilities, etc.) are needed.

- **Motorcycle safety**

  A key safety issue raised by the public involves the inability of in-ground traffic detectors at stoplights to always register motorcyclists. Because of their small size, motorcycles do not always trigger the in-ground sensing devices and do not get protected left turns. To compensate, many motorcyclists choose to make rapid left turns when traffic has cleared or at the end of light cycles.

  Another motorcycle safety issue focuses on signage. Better signage, warning motorcyclists of pavement conditions ahead, is needed, especially in areas where grooved pavement, gravel roads, or construction activities exist.

B. Safety Issues Identified by MDT Staff

Specific issues identified with current project design and delivery functions regarding safety include:

- **Project design**

  Safety concerns are generally addressed through roadway design and construction standards.

- **Traffic control and work zone safety**

  MDT addresses safety through traffic control activities completed during design and construction, and ensures that plans and provisions are in place so that vehicles, bikes, and pedestrians can safely transit through a project site.

- **Commercial vehicle safety and inspections**

  MDT is concerned about how new Federal Motor Carrier Safety Administration (FMCSA) rules and regulations will impact the inspection procedures.

  Overall, Montana has been responsive to the need for more parking space and facilities for truckers. The State has worked independently as well as with local governments to develop or expand some rest area facilities to accommodate the increased volume of commercial vehicles. In addition to expanding the footprints of open facilities, MDT is looking to reactivate mothballed or abandoned facilities to accommodate the growing traffic volumes. Many states have developed full-service facilities, typically through concession agreements. To accommodate growth in some communities, MDT has also expanded some weigh station facilities to include rest area facilities, for the exclusive use by commercial vehicle drivers.

  MDT is also Montana's "lead" CVISN agency. CVISN (Commercial Vehicle Information System Network) is the Federal Motor Carrier Safety Administration's premiere commercial vehicle safety initiative. CVISN's goal is to provide "real time" safety information at the roadside so that each state's limited enforcement resources can be focused on carriers with unsafe records.

- **Permanent traffic control and guidance**

  Montana's aging population will require improved visual marking for guidance while driving. While Montana's standard is a 4" wide strip, many other states have shifted to 6" or 8" stripes. In addition, FHWA is in the process of developing a minimum standard of reflectivity of traffic control equipment, such as lane markers and signs. Other options include developing standards and specifications for recessed markers, or longer lasting paints and marking materials.

- **Bicycle and pedestrian safety**

  The State's policy on highway rumble strips has been modified to address bicyclist's concerns. MDT ensures the most effective balance between the need for a rumble strip to make noise and ensure driver alertness with the safety requirements for bicycle use. MDT's future efforts will be to identify the design that best meets all design criteria for motorist and bicyclist safety.

C. Issues from Trends Analysis

- **Driver behavior**

  The State has made significant improvement in reducing the use of alcohol by young drivers; however, the accident rate of young, inexperienced drivers indicates the need to improve their overall knowledge, skills, and abilities to operate on the roads. Overall, improved driver training and skills monitoring will benefit all driver age groups.

- **Comparison with neighboring states**

  Montana has the second highest population among its four neighboring states, but has the highest fatality rate per 100 million miles traveled. This could be an indicator of poor driving habits or a further indicator of lack of driver knowledge and experience.

- **Rest areas operation and maintenance**

  The State does not operate rest areas in some parts of the state on a continuous basis, because of maintenance costs and damage to the facilities due to inclement weather (frozen pipes, etc.).

  Traffic volume statistics have lately proven that keeping some rest areas closed during the winter was counter-productive. Winter traffic volumes (winter sport enthusiasts and retirees) are higher than previously predicted. Consequently, MDT has begun keeping more facilities open year-round for safety purposes.

IV. Policy Goals and Actions

This section lists the potential range of policy goals and actions that MDT can implement to address the safety issues identified in the preceding sections. The range of actions is limited to those that MDT can take. As discussed earlier, other state agencies have jurisdiction over driver licensing, driver competency, and other aspects of driver behavior that are a cause of the majority of fatalities and injury accidents in Montana.

This policy paper groups the range of MDT actions in two categories:

- Actions that MDT can take to improve the management of traveler safety and safety programs and policies on a statewide basis
- Actions that MDT can implement in coordination with other Montana state agencies, especially in facilitating improvements in driver behavior.

The following policy goals and actions are considered for inclusion in the TranPlan 21 2002 Update:

POLICY GOAL A: Reduce the number and severity of traffic crashes on Montana's roadways.

Purpose: A primary mission of MDT is to ensure the safety of the users of the transportation system. A key measure of success in this mission is to reduce the number of fatalities and injury accidents.

Rationale: Over 200 people per year are killed in roadway accidents on Montana's roadways. There are over 22,000 accidents per year, over 7,000 of those include injuries and fatalities. By national standards, the cost of roadway accidents on Montana's roadways is estimated to exceed $700 million per year.

Action A.1: Review and strengthen the procedures for identifying and defining safety deficiencies and needs at the project planning and development levels by establishing a "reconstruction with safety" improvements category.

MDT addresses safety needs at the project level through the Hazard Elimination Program (HEP). It also addresses safety as part of reconstruction projects. The HEP targets high accident locations and enables MDT to address problems after there have been clusters of accidents. This action is intended to include safety planning in the identification of reconstruction needs. It will strengthen the planning level identification of safety needs and their consideration during project planning and development.

The intent of the action is to take a more proactive approach to addressing safety. This involves assessing safety deficiencies as part of project planning by evaluating the implications of future traffic volumes on the safety of the facility as well as identifying existing design deficiencies. An example is the safety-related need to address slow moving vehicles, especially where traffic volumes are increasing, through reconstruction projects that include passing lanes around slow moving vehicles (commercial and recreational vehicles) in hilly terrain. To accomplish this, projects would be labeled "reconstruction with safety" improvements where appropriate. The intent is to ensure that projects are assigned the budget to address safety deficiencies as part of reconstruction. The analogy is with the "reconstruction with congestion" guidelines that project designers receive. Another example is the pro-active approach MDT has taken toward commercial vehicle safety enforcement. With the opening in February 2001 of Montana's first commercial vehicle inspection facility on Interstate 90 between Billings and Laurel, Motor Carrier Services (MCS) Division Enforcement Officers now conduct commercial vehicle and driver inspections around the clock, 365 days a year.

Level of effort:

Action A.2: Conduct a highway safety management self-assessment and implement the recommendations.

Highway safety is an MDT priority. MDT affects highway safety through the design, maintenance, and operation of the highway system. This action conducts a self-assessment of MDT's design standards and practices as they address safety. It also includes a self-assessment of traffic operations, maintenance, and work zone safety. The self-assessment should be forward looking and address the increased traffic volumes anticipated on the existing system, especially in the faster growing counties.

Potential areas to address in the self-assessment are:

- **Work zone safety**

  MDT is applying the new Manual of Uniform Traffic Control Device (MUTCD) guidelines for work zone safety, for both construction and maintenance work. The self assessment will determine opportunities for improving on current practices.

- **Design process improvements to incorporate safety considerations into design decisions**

  This involves considering research findings such as AASHTO's Safety Design and Operations Guide, among other work, as part of the self-assessment.

- **Motorcycle safety**

  Motorcycles have different operating characteristics than passenger cars and trucks. In response to motorcycle safety issues, MDT will identify highway practices that will

address hazards and other areas of safety concern to motorcyclists. This will draw on the on-going national consideration of these issues by AASHTO, the American Motorcyclist Association, Motor Cycle Riders Foundation, NHTSA, and the FHWA. Areas of concern are highway design, operations, and maintenance practices that consider the special needs of motorcycles. Areas of concern also include in-ground loop detectors for protected left turns, work zone hazard warnings, and pavement conditions, including a review of the effectiveness and extent of implementation of the current rumble strip.

- **Driver guidance through pavement markings and delineation**

  Nighttime crash rates are higher than daytime rates. Limited visibility contributes to this differential and can be partially addressed through a standard level of pavement markings. There is much new research in this area for MDT to evaluate its practices against. The visibility needs of the growing elderly population in Montana also needs to be considered. MDT could potentially address this area through maintaining a standard level of reflectivity in markers, in accordance with the processes under development by the FHWA.

- **Maintenance practices assessment**

  A self-assessment to identify improvement opportunities in maintenance practices that address safety.

Level of effort:

Action A.3: Implement the 1999 Access Management Project recommendations for approach permits as a priority and the other components of the recommended program.

This action implements the recommendations of the 1999 Access Management Project. The implementation of new approach standards will directly reduce the number of accidents on Montana highways. Further, given that the access management program targets growth corridors, the action provides a proactive mechanism for reducing the number of accidents predicted due to travel growth. The access management program will address the safety consequences of increased traffic volumes on Montana's arterial system, especially in the faster growing urban counties.

Level of effort:

Action A.4: Consider results of the 2002 Montana Bicycle Safety Study in addressing bicycle safety issues.

MDT is currently conducting a study that directly addresses bicycle safety. The results of the study in addition to other input can be used to address the following issues:

- Identify the needs for roadway and highway signage appropriate for both bicyclists and motorists.
- Review and revise as needed MDT's roadway design guidelines and standards, including those for rumble strips, to address safety and travel concerns of bicyclists.
- Review the statewide needs for providing sufficient shoulder and roadside spacing to accommodate motor vehicles and bicyclists on roadways.
- Identify and incorporate bicycle and pedestrian safety requirements into state and local capital improvement programs, consistent with federal law and prior policy.
- Review and evaluate statewide conditions/needs for bicycle safety and education.

Level of effort:

Action A.5: Conduct a requirements definition and feasibility assessment for enabling the current Safety Management System to provide a better tool for managing traveler safety.

This action is intended to ensure that MDT has the information to evaluate accidents, identify hazards, develop applicable countermeasures, and evaluate performance in improving safety. MDT staff has identified a number of limitations with the current Safety Management System, including inconsistent reporting methodologies for accident locations and types. In addition, not all accidents are recorded using the current reporting procedures. TranPlan 21 Update analysis found that the safety management system is not systematically used by MDT management or other agencies as a tool to identify deficiencies, evaluate needs, and improve safety. The intent of this action is to define the information required to ensure that MDT funds are effectively used to accomplish safety policy objectives. A steering committee, consisting of executive level management from all departments and agencies involved with traveler safety, will direct and champion this effort to ensure successful development and implementation.

Level of effort:

Action A.6: Address safety requirements, including both driver fatigue and personal safety, in updates to the Rest Area Plan.

This action recognizes that MDT's 1999 Rest Area Plan identifies improved highway safety as the primary benefit of rest areas. The Plan contained several recommendations related to rest areas, including location and development, design, operation, and maintenance. MDT's

rest area planning and operations must consider a number of factors. This action recognizes that rest areas play an important role in reducing fatigue for drivers of both cars and motor carriers. For the motor carrier industry, rest areas provide a safe place for vehicles out of service to pull off. A further consideration for the rest area level of service is personal safety for the users of these facilities. This needs to be factored into the design and operation of current and future facilities.

Level of effort:

Action A.7: Conduct a study of pedestrian safety conditions and needs.

This action is intended to ensure MDT has information to base decisions and improvements regarding pedestrian safety in project development, as well as identifying pedestrian safety needs and deficiencies in pedestrian safety education. This study will look at alternative solutions and countermeasures to reduce the number and severity of non-motorist fatalities, and analyze crash data in key pedestrian crash locations. It will also look at reporting practices and data collection activities related to pedestrians.

Level of effort:

POLICY GOAL B: Provide leadership and coordinate with other Montana agencies to improve traveler safety.

Purpose: To facilitate a coordinated inter-agency approach to improving traveler safety.

Rationale: Montana trend analysis and national research indicates that many of the policy and program actions that can improve safety in Montana are not within the jurisdictional responsibility of MDT. These include actions such as licensing drivers, improving drivers' competency, reducing impaired driving, and increasing safety awareness. Since it is Montana's Office of Highway Safety, MDT has an important role to play in providing leadership and coordination for traveler safety.

Action B.1: Establish and maintain high-level statewide inter-agency coordination to improve traveler safety and develop an agenda for action.

This action recognizes that improved safety in Montana will require inter-agency coordination and the implementation of actions outside of MDT's jurisdiction. MDT will pursue the use of the existing Interagency Coordinating Council as a mechanism to implement this action. By locating the Governor's Office of Highway Traffic Safety within MDT, the department is placed in a position to initiate inter-agency coordination. Initial coordination work of the council should include those driver-focused initiatives that will reduce accidents, fatalities, and injuries. Agencies that should participate include the appropriate divisions in Montana State and local government including the Department of Justice, Department of Public Health and Human Services, Office of Public Instruction, the Indian Nations, local governments (cities and counties), the Federal Highway

Administration, National Highway Transportation Safety Administration, the Federal Motor Carrier Safety Administration, and MDT. Senior management participation from these agencies is essential to ensure buy-in and championing of initiatives recommended and supported by the coordinating council. As a further step, the council should eventually seek input from local jurisdictions and non-governmental organizations.

The action would result in an inter-agency agenda for action and provide an ongoing mechanism for coordination. MDT's Office of Highway Traffic Safety, through the improved safety management system, should be positioned to provide staff support and analysis to identify effective initiatives for improving safety. Again, many of the initiatives would be outside of MDT's authority to implement and not appropriate to include in the TranPlan 21 2002 Update.

TranPlan 21 2002 Update analysis and stakeholder and public input suggest the following agenda of actions for consideration by the inter-agency council:

- Assessment of driver licensing and education options that would reduce the accidents and fatalities by young drivers.
- Initiatives to promote and increase the use of occupant restraints and other safety devices.
- Public education and other initiatives to improve safety for motorcyclists and bicyclists.
- Approaches for coordination between agencies to improve crash data reporting.
- Approaches to increasing driver safety awareness.
- Enforcement and educational approaches for reducing impaired driving.
- Approaches for sustaining proficiency in older drivers.
- Measures that ensure drivers are fully licensed and competent.
- Measures to prevent animal-vehicle collisions.

Level of effort:

Action B.2: Provide leadership and support to implement the results of Action B.1.

Through this action, MDT will provide senior leadership to facilitate the agenda for actions developed in Action B.1. This would be part of the work of the State's Office of Highway Traffic Safety. The activities will be in support of, and coordinated with, the MDT Business Plan and the Transportation Safety Action Plan.

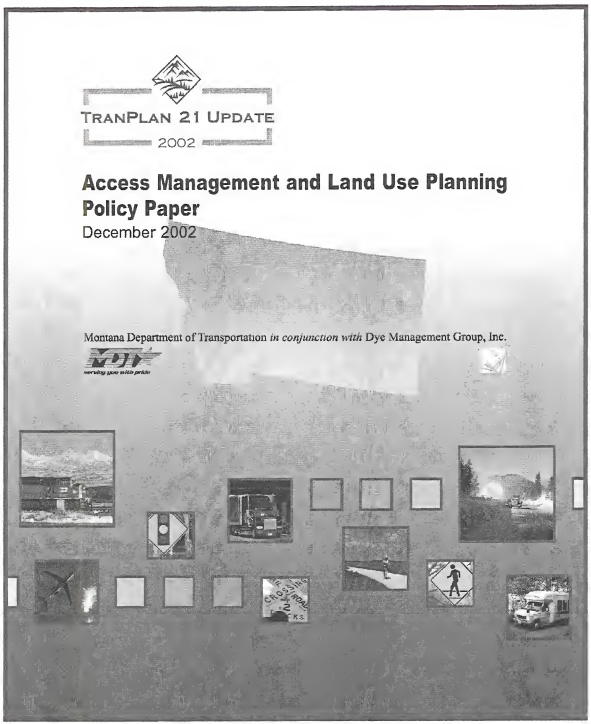
Level of effort:

Action B.3: Continue providing ongoing leadership in air traveler safety.

This action recognizes MDT's role and responsibility for leading the voluntary air search and rescue network within Montana, as well as managing and conducting safety clinics and training for pilots and other professionals involved in air transportation in the State. In addition, MDT will conduct airport safety inspections. The activities will be in support of, and coordinated with, the MDT Business Plan and the Transportation Safety Action Plan.

Level of effort:

DRAFT


TRANPLAN 21 UPDATE
2002
Access Management and Land Use Planning
Policy Paper
December 2002
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Access Management and Land Use Planning Policy Paper

Table of Contents

I. Introduction 1
- A. Current Land Use Planning Authority in Montana 1
- B. 1995 TranPlan 21 Response to Land Use Planning Issues 3
- C. Current Land Use Planning Activities in Montana 4
- D. Current Access Management Practices in Montana 5
- E. Access Management Implementation 8
- F. Access Management Strategies and Mechanisms 9

II. Access Management and Land Use Planning Issues 12
- A. Issues Raised by the Public 12
- B. Issues Raised by MDT Staff 13

III. Policy Goals and Actions 18
- A. Access Management 18
- B. Land Use Planning and Transportation 19

IV. References 23

I. Introduction

Background on Current Land Use Planning and Access Management for Transportation in Montana

This document is the TranPlan 21 2002 Update to the 1995 Access Management and Land Use Planning Policy paper. This policy paper addresses access management and the broader issue of the linkage between land use and transportation in Montana. For both areas, the paper describes the conclusions from the original 1995 TranPlan 21, the issues addressed in the original policy paper, current policies and practices, the major issues raised for this update, and the recommended policy goals and actions that address these issues.

Access management and land use planning were subject to an in-depth treatment in 1995 because Montanans raised many issues about the impact that development was having on the transportation system and concern that MDT's decisions were making it more difficult for local communities to manage growth. In 1995, strong sentiment was expressed in a number of communities that MDT take a more active role incorporating land use in highway planning decisions. Because MDT does not have the authority over land use, the 1995 policy paper concluded that MDT should not adopt a more active role in land use planning. Instead, the paper concluded that MDT has a strong policy interest in ensuring that the development review decisions and the land use planning actions of local jurisdictions preserve the efficient and safe function of Montana's transportation corridors. This policy interest was covered in the 1995 policy paper through actions concerning access management, and coordination with local jurisdictions' planning activities. In addition, actions addressed developer responsibilities to mitigate traffic impacts from major new developments.

The issues addressed in the original policy paper and the conclusions arrived at still hold for the 2002 TranPlan21 update. The 2002 update paper is consistent with the findings and direction set in 1995. Today, the imperative for implementing access management and corridor preservation, and for establishing close coordination with Montana's local governments, is greater due to the continued concentration of growth in Montana's most developed counties.

A. Current Land Use Planning Authority in Montana

Before discussing MDT's policy goals and actions related to access management and land use planning, it is important to note that the State of Montana in general, and the Montana Department of Transportation in particular, have no enabling legislative authority relative to decisions over land use. Land use planning authority resides at the local level. Local jurisdictions have the authority to address land use planning through three authorities: 1) a comprehensive plan, 2) sub-division laws, and 3) zoning and permitting regulations. These authorities are described below.

1. Comprehensive Plan

The Local Planning Enabling Act (76-1-101 through 76-1-606, Montana Code Annotated) enables local government to prepare a comprehensive plan and sets out the required procedures. If enacted, the comprehensive plan must cover the entire jurisdiction and address all aspects that affect the community's public facilities, transportation, parks, recreation, economy, and housing. The planning jurisdiction may focus on incorporated urban areas or may include the entire county.

2. Sub-Division Laws

Sub-division laws regulate the process of platting land into lots and providing public facilities (roads, water, sewer, and storm drainage) to the lots. Before granting approval, local governments must assess the anticipated needs of the proposed subdivision for local services including roads and maintenance, and overall public health and safety related to the development.

3. Zoning and Development Permitting

Zoning is a legal tool local governments use to protect public health, safety, and welfare by dividing jurisdictions into use districts (zones), restrict various uses to certain zones, and impose requirements that permitted uses must meet. In Montana, three different statutes authorize local governments to enact zoning regulations; however, zoning is not mandated.

Many planners and local officials in Montana have expressed interest in alternatives to zoning for regulating land use. One alternative, using existing state enabling statutes, involves development permit regulations, which affect the character and quality of new development as opposed to zoning, which only affects the location. Development permit regulations may be adopted under any of the three zoning enabling statutes.

Development permit regulations may be used to implement a jurisdiction's land use plan and mitigates transportation impacts by having different requirements for different areas in a county. For example, there could be more specific requirements to manage growth in incorporated and unincorporated communities, and less restrictive or specific standards in the rest of the county. Growth management has been a topic of interest in recent years and usually means that a growth area is designated by a boundary line, and within that growth area development at higher densities is encouraged by various mechanisms such as providing infrastructure (roads, water, sewer) to support this development. Montana's local governments have the authority to establish goals for local growth.

B. 1995 TranPlan 21 Response to Land Use Planning Issues

In response to the access management and land use issues evaluated in the planning process, the following overall policy goals and actions were adopted in the 1995 TranPlan 21 Access Management and Land Use Planning Policy Paper:

- MDT established a policy goal encouraging local jurisdictions to establish land use planning and development permitting mechanisms that would enable local jurisdictions to better manage the land use aspects of transportation/land use coordination.

  Since TranPlan 21 was adopted in 1995, MDT and the planning officers in many of Montana's cities and counties have developed a close working relationship in reviewing proposed developments within the Systems Impact Action Process (described later in this document) a development's impact on the safety and function of the public roadway system may be mitigated either by conditions included in local platting approvals or through approach permits issued by MDT – depending on the jurisdictional authority over the adjacent roadways. The close working relationship between the MDT and local planning offices enables local governments to better manage both land use and transportation aspects of development. These reviews are limited to site impacts.

  Montana's urban areas, along with other areas that are under development pressures, also receive support from MDT to develop transportation plans. The local government offices manage these plans. Consequently, the urban area transportation plans are consistent with local land use plans. However, many of Montana's local governments are at a disadvantage because they lack resources to support local planning efforts.

  The TranPlan 21 2002 update retains the goal of encouraging local land use planning with the additional specific focus of encouraging local jurisdictions to better support MDT's corridor preservation objectives.

- MDT established a goal of working with local jurisdictions to require developers to mitigate the roadway systems impacts resulting from large developments by contributing to improvements required to accommodate travel demands.

  This goal resulted in MDT establishing a defensible mechanism known as the Systems Impact Action Process. The TranPlan 21 2002 Update refines this goal by focusing the State's permitting authority and its working relationship with local government decision makers.

- Potential policy goals and actions that would have increased MDT's direct activity in the area of land use planning were not adopted.

  The TranPlan 21 2002 Update did not revisit these decisions because MDT is not the appropriate agency for initiating or coordinating land use-related actions. Regardless of the issue of authority, within the 1995 TranPlan 21 there was greater concern

expressed by the public over MDT's direct involvement in local land use planning. In addition, during the development of projects, especially those that add capacity to the highway system, local governments normally advise and participate in project planning including design elements that enhance local land use goals.

C. Current Land Use Planning Activities in Montana

1. Status of Land Use Planning in Montana

Land use planning at the local level has been inconsistent across the state. Outside of Montana's major growth areas and its largest cities, there has been little local interest in planning for and regulating development. Despite having the option of preparing a comprehensive plan, many counties and cities have not completed one. In addition, those counties that have prepared comprehensive plans have not enacted comprehensive zoning ordinances to guide implementation.

As of 1995 in Montana, 36 out of 56 counties had completed comprehensive plans, all 128 municipalities and all 56 counties had subdivision regulations, 21 municipalities had zoning, no counties have traditional jurisdiction-wide zoning, and 4 counties had different types of development permit regulations based on zoning, although several counties had intermittent citizen-initiated zoning districts (Montana Department of Commerce). (This information is in the process of being updated in cooperation with the Montana Department of Commerce.)

2. Coordination of Transportation and Land Use Planning

The Transportation Efficiency Act for the Twenty-First Century (TEA-21) requires state transportation agencies and metropolitan planning organizations (MPOs) to consider projects and strategies that will: "support economic vitality," "increase accessibility and mobility options," "protect and enhance the environment," "improve quality of life," and "enhance the integration of the transportation system." These parallel considerations are commonly included in land use planning activities. TEA-21 eliminated any specific reference to state-level responsibility regarding land use planning because states rarely have authority to directly make land use decisions. At this time, the Federal Regulations interpreting TEA-21 have not been finalized and the Federal Highway Administration has issued guidance to states to follow the statutory language of TEA-21. Consequently, while land use coordination is not a specific requirement, the underlying goals of most land use plans have to be considered within the parameters of the statewide plan.

Many regions of Montana lack a current comprehensive land use plan that can serve as a reference for the statewide, policy level transportation plan. In practice, consistency between the local land use plans and state transportation system development and management is achieved through the Systems Impact Process (described later in this

document) for large site developments. Local officials also assure consistency with their jurisdiction's land use plans through the project nomination process for the Secondary and Urban Highway Programs, in which they act as the principal project originators. In addition, local elected officials are directly involved through advisory and steering committees in the project development process (especially for capacity expansion projects) including all access management for individual projects.

In Montana's three metropolitan areas (Billings, Great Falls, and Missoula), transportation planning is conducted in accordance with Section 134 of 23USC, which includes the considerations for strategies and projects described above. As with most metropolitan areas nationally, the counties and cities that comprise Montana's three MPOs are also responsible for local land use planning. In addition to supporting the federally-mandated transportation planning efforts in the metropolitan areas, MDT also supports planning efforts in smaller urban areas including Bozeman, Helena, Kalispell, and Butte that are managed by the local agencies responsible for land use planning. Taken together, these efforts ensure coordination between transportation planning and land use planning in those areas where there is the highest level of interest in, and commitment to, land use planning.

D. Current Access Management Practices in Montana

Access management describes a set of administrative, engineering, and management practices that preserve the safe and efficient operation of Montana's highway system. The practice of access management addresses elements such as access spacing, intersection and traffic signal spacing, denial of access requests, and geometric design standards. These standards should reflect differences between urban and rural areas, as well as difference between the hierarchies of functional classes, allowing greater degree of access on lower volume and speed routes, while restricting access on higher volume and speed routes.

Access management is controlling the design and operation of all approaches and public street connections onto highways. Management or control of vehicular access to the system of state highways and arterial roadways is a practice that has gained increased attention in recent years as a means of preserving and enhancing system performance, improving safety, and addressing concerns such as traffic congestion and the escalating costs of upgrading roads. Several western states, including Colorado and Oregon, have adopted very comprehensive access management programs that go well beyond the traditional right-of-way issues. This movement is consistent with the overall direction of transportation agencies, which now focus as much attention on asset management, corridor preservation, and highway maintenance as on capital construction. Many states are looking to access management as an essential tool for preservation of the functional integrity and hierarchy of the existing highway system.

MDT is not new to access management; the department has been involved with access management initiatives for several years:

- **1992 Access Management Plan**

  The Montana Highway Commission adopted an Access Management Plan developed by MDT staff. That document mainly clarified the process by which an access control regulation could be modified to allow access at points not granted at the time access rights were originally acquired.

- **Access management in the 1995 TranPlan 21**

  The original TranPlan 21 Access Management and Land Use Planning Policy Paper identified the state of access management and land use planning in the state, at that time. Through the policy paper, MDT adopted policy goals and actions aimed at strengthening access management including:

  – The establishment of a classification system for access management.

  – The inventory and refinement of methods to ensure that there is adequate authority to manage access in Montana.

  – The work to communicate the performance benefits arising from an access management policy.

  The 1995 issue identification process, further confirmed by the 2002 TranPlan 21 Update analysis, found that almost all Montanans believe that the highway system is basically complete, and that the focus of attention should be on maximizing the productivity of the existing infrastructure, and preserving and maintaining current facilities. In addition, it has been noted by MDT staff that enhancement of access management standards, and more rigorous enforcement of those standards, is desirable from the Department's standpoint of maintaining safety and system performance.

- **The 1999 Montana Department of Transportation Access Management Project Final Report**

  The 1999 Access Management Project Report provides a detailed description of access management and its benefits for Montana. The issues identification for that study reiterated the need for access management in Montana.

  The conclusions from the 1999 Access Management Project included:

  – Develop and implement an Access Classification System.

  – Develop and implement access management guidelines.

- **MDT's Systems Impact Action Process**

  The 1995 TranPlan21 established policy direction and a mechanism to hold private developers responsible for funding improvements to the transportation system required

by the increased traffic demands generated by their development. The policy provides a mechanism to ensure that improvements are able to keep pace with growth. Paying for the new infrastructure necessary to maintain safe and efficient levels of transportation service in Montana's fast growing areas is one of the most consistent and difficult challenges facing MDT and local jurisdictions. In order to implement TranPlan21's direction, MDT developed the Systems Impact Action Process.

MDT's Systems Impact Action Process provides a coordinated review of projects initiated outside of MDT that may significantly and permanently impact the transportation system's safety or functionality. Through this process MDT coordinates with the local agencies that have land use authority. The process provides coordination within MDT and with other state, federal and local review and permitting agencies.

As part of the development approval process, either local jurisdictions and/or MDT have authority to require developers to mitigate transportation system impacts. Mitigations can include the developers paying for the design and construction of traffic signals, turn lanes, and improved roadway geometric designs and surfaces. Direct authority to require these improvements may reside in the local government platting approvals and/or MDT granting of access permits for developments crossing state right-of-way. To ensure a comprehensive traffic impact review, developers are responsible for traffic impact studies for all developments greater than a particular size. These are then comprehensively reviewed for technical accuracy and the appropriateness of the mitigations suggested by the developer.

The goals of this process include:

- Provide a one-stop process for private developers to request access to and from the state highway system.
- Facilitate a timely review of the developer's request by a varied group of MDT technical offices.
- Identify reasonable accommodation of the developer's project needs.
- Preserve the safety and efficiency of Montana's transportation system.
- Protect taxpayer investments by recovering costs from developers for their project's impacts to the transportation system.
- Ensure MDT permitting does not precede an environmental process (NEPA/MEPA).

A large number of projects go through the System Impact Action Process. In the spring of 2002, MDT has 45 projects at various stages of review, including the following:

- Bozeman Home Depot, a commercial development in Bozeman. The developer is paying for traffic signals and geometric improvements.

- Elk Grove Development, a residential development requesting access to US-191. The developer is responsible for paying to install a turn lane and widen the road, including the purchase of right-of-way.
- Bull Mountain Rail Spur, a 27-mile rail spur from the Bull Mountain Mine to the BNSF main line near Broadview. The mine is responsible for constructing grade separated highway crossing at two locations: US-87 and MT-3.

For MDT, the most effective method of addressing transportation issues related to new development is the System Impact Action Process. The process provides a coordinated review that protects the taxpayer's investment in the transportation system while allowing the development of private property in accordance with local land use planning decisions.

E. Access Management Implementation

The 1999 Access Management Project established a new access classification system for Montana's National Highway System and Primary System. The classification system distinguishes between four major categories of roadway:

- Rural very low volume.
- Rural.
- Intermediate.
- Developed access.

The classification system provides a framework for managing access onto the roadway. For each of the categories, the Access Management Project developed access guidelines that recommend:

- Minimum unsignalized access spacing.
- Where non-direct access will be sought. (This includes instances where direct access would be denied when other access is available.)
- Median opening spacing.
- Signal spacing and bandwidth.

The overall approach for implementing these guidelines involves consistent application of the access management classification system. The guidelines provide a clear set of access-related objectives for Montana's roadways that MDT can plan for and design consistently.

1. Implementing Mechanisms

The basis for implementing the access classification system has applied the following mechanisms:

- MDT review, refinement, and adoption of the access guidelines as the statewide access "plan" or objectives for the National Highway and Primary Systems.
- Completion of access control projects using the access control resolution process.
- Update and amendment of the 1983 Driveway Approach Standards to establish the guidelines as standards that apply to issuing driveway approach permits.
- Application of the access guidelines governing driveway spacing and other design criteria in projects that are subject to access control resolutions.
- Improvement in communication and coordination with the appropriate land use planning authorities.
- Ensuring MDT employees in headquarters and the Districts are trained in and consistently apply the access guidelines.

2. Implementing Authority

The access classification system would be implemented using MDT's existing authority. This is consistent with how MDT has applied standards in the past. Through its general police powers and responsibilities to protect the public health, safety, and welfare on state highways, MDT and the Transportation Commission may implement appropriate engineering standards and procedures to manage, by regulation, access on highways. MDT's current approach to regulating driveway access is specified in the Administrative Rules of Montana (Chapter 5, Preconstruction Bureau, Sub-Chapter 1, Highway Approaches).

F. Access Management Strategies and Mechanisms

The specific methods and criteria for determining how much access to provide, and how to physically provide or limit access, are the elements of an access management strategy. Successful access management strategies include:

- A classification system, defining the "access class" for each facility in the state system.
- Guidelines for determining the level of controls that are appropriate for a given area and facility type.
- Criteria which define the preferred characteristics within an access class; examples include criteria for minimum intersection and driveway spacing, installation of barrier medians, location of median breaks, turn prohibitions at intersections and driveways, use of frontage roads, traffic signal spacing, etc.
- Procedures for handling requested variances.

Additional components might include a permit or fee system, guidelines for "grandfathering" existing access, and administrative responsibilities. Other than the traffic engineering tools noted above, other techniques that a state may use to effect access management include the following:

- **Statutory Access Control.** The Montana Transportation Commission may designate a roadway as a "Controlled Access Highway and Facility" in order to facilitate the flow of traffic, preserve the public peace, support health and safety, promote general welfare and efficient travel, and to otherwise facilitate implementation of the purposes and intents set forth in Montana Code Annotated 60-1-101 and 60-1-102. Access rights may be controlled and/or limited by the State either through exercising its police power, or, if it is determined that the police power does not apply to an individual parcel, through eminent domain.
- **Acquisition of Access Rights.** The State has the power to purchase access rights or restrictions. These may be used to control the location and number of access points to a given parcel, as well as to limit changes in the use of an access point if that change would generate additional demand on the arterial roadway.
- **Subdivision Regulations.** The State has no authority to review subdivision plans, which are reviewed at the local level. This strategy allows local government to ensure, for example, that the development has adequate internal circulation, setbacks, and no direct access onto highways from individual lots.
- **Driveway Permit System.** The State (as well as lower levels of government) has the authority to require a permit for construction of a private driveway onto a public road. This authority may be used to prevent further access from the same parcel (restrictive covenant).
- **Official Mapping.** By officially mapping a future transportation corridor or improvement, the State and most levels of government have the authority to retain full access control over the planned facility. Limitations may apply to Montana's ability to officially map a state highway improvement until alignment studies and environmental analysis has been completed.
- **Corridor Planning.** Multi-jurisdictional planning efforts, authorized by state and federal statutes, may be used to develop corridor plans. The plans could include specifics as to how corridor preservation and access management will be achieved, and the type and scale of development that will be encouraged through specific access locations, frontage roads, and other physical techniques. MDT's corridor preservation report, "The Preservation of Right-of-Way for Transportation Corridors," provides a good starting point for this type of approach in Montana.
- **Land Use Planning and Zoning.** This is predominantly the domain of local government. However, MDT controls access to state facilities, and thus exerts some influence. The State, through a technical and policy support role, can impact the development of land use plans and zoning ordinances to favor access management. The potential value of a supportive role, rather than a regulatory one, should not be

dismissed. The most damage can be done, or the most benefit can be had, during early stages of development before a locality has the expertise or resources to define access management strategies. By providing model ordinances, site design and access guidelines, or even review of applications, the State could affect important development decisions in critical "formative" years of a corridor's urbanization.

Many of the potential strategies noted above for access management may also be applied to corridor preservation efforts:

- **Land Purchase.** Many techniques are available to help ensure that land is available for additional right-of-way when and if needed. These include outright purchase, purchase of easements, and land-banking. Disadvantages include the difficulty of predicting with accuracy the final alignment of a transportation project, and the inefficiency/unpopularity of committing scarce funds for projects with such a long-term payback.
- **Official Mapping.** As noted above, official mapping of future transportation corridors may be necessary to effectively prevent development from taking place within the corridor. To avoid acquisition battles, and other property rights challenges, some care must be exercised in the timing and duration of such techniques.
- **Setback Standards.** These must be used with care to reserve land for future expansion of existing facilities, including frontage roads. Setback standards that promote public safety and welfare (for example, safety buffers of sight clearance) do not require compensation of landowners. Conversely, setbacks for the sole purpose of reserving land for future roadway widening will generally result in a "taking" action requiring compensation.
- **Dedications.** Dedications are typically requested at the state level only when a development has access onto a state facility. Local government may use this technique liberally in exacting land for necessary improvements. However, a recent ruling of the U.S. Supreme Court places more stringent burden of proof upon government in establishing proportionality and nexus between the impact and the dedication.

The 1999 Access Management Project provided a comprehensive set of recommendations and an implementation plan for improving the productivity of the current highway system and improving safety through strengthened access management. The recommendations specified the following key elements:

- A classification of roadways to target effort where it is most needed.
- New approach standards with minimum driveway separation.
- Strengthened procedures for the consistent application of approach standards when permits are issued.
- Guidance for undertaking access control projects to purchase access rights and preserve critical corridors.

These recommendations were endorsed by the Montana Transportation Commission; however, MDT has not implemented them due to a lack of resources.

II. Access Management and Land Use Planning Issues

Access management and land use planning issues were identified through open house forums, mail-in and telephone surveys with the public, and through discussions with MDT staff. It is important to note that the State, and hence MDT, has no authority over land use planning and MDT's actions must therefore be limited primarily to access management and the close coordination with local governments responsible for land use decisions.

A. Issues Raised by the Public

Despite the limited experience with land use planning in Montana, there is growing interest at the local level, especially in the faster growing communities, in using land use planning to manage growth, preserve the quality-of-life, and protect the environment. This interest is also reflected in a range of general transportation-related issues identified for the statewide plan.

The public and stakeholder involvement conducted as part of the TranPlan 21 Update found that many of the 1995 issues remain important. These issues included:

- Concern about the increasing demands placed upon the highway system because of new development patterns.
- Recognition that current development patterns, access management practices, and sometimes weak land use planning reduces the effectiveness of the transportation system.
- Resistance, on the part of some, to address increased transportation demands through increased highway capacity.
- Desire to see transportation system management, demand management, and other modal options pursued to meet increased transportation demand. This concern is often linked with a reluctance to increase highway capacity.
- Recognition that land use decisions affect transportation system performance.

In addition to the above, public involvement and stakeholder meetings conducted for the TranPlan 21 2002 Update identified the following related issues:

- Strong interest in MDT being more proactive in corridor preservation by purchasing or protecting right-of-way in advance of construction projects in key corridors.
- Concern over the increasing costs of right-of-way in many corridors.
- Recognition that local jurisdictions and MDT need to coordinate planning.

- Concern over the function and design of highways through urban and developing areas, including amenities related to local land use goals, which are considered generally under the heading of "context sensitive design."

  In several communities, issues were raised about the function and design of major state highways as they approach and pass through communities. In some communities these issues are characterized as "context sensitive design." The issue raised is that MDT needs to work with and involve local communities to an even greater extent in design decisions that are made for state highways that pass through these communities. The issue is a planning issue because MDT needs to find a way to move traffic through and into growing communities on the state's major highway corridors. The land use planning, development approval, and street planning decisions that local communities make determine how effective MDT can be and the options open to MDT in meeting these demands. Context sensitive design issues arise when there are competing and different goals and objectives for particular highways and transportation corridors. Because of their importance, these issues are addressed in the Roadway System Performance Policy Paper.

B. Issues Raised by MDT Staff

Interviews with MDT staff identified several issues arising from the current conditions and practices of access management and land use planning in Montana.

1. Access Management Issues

- **Incomplete implementation of prior access management processes and actions.**

  Despite the 1999 Access Management Project final report, access management in Montana is not implemented to the same degree as it is in several states with more aggressive, proactive programs.

- **Lack of consistent rigorous application of access management policies.**

  On the Interstate Highway System, complete control of access is federally regulated and achieved through strict geometric design standards. Not only the design of interchanges, but also the spacing between interchanges is specified for urban and rural conditions. On state arterial highways, however, it does not appear that the Department's policies are uniformly or rigorously applied throughout the state.

- **Lack of consistency in application of access management standards.**

  There is a lack of consistent statewide application of uniform access management standards. Further, Department staff report that it has been difficult to enforce access controls unless there is a clear safety problem directly addressed by the

proposed control. Denial of access, or conditioning of access, is difficult if the principal benefits are preservation of capacity and system functionality or performance.

- **Limited tools for preserving corridors in current access management approach.**

  The 1999 Access Management Project final report provides detailed direction to MDT for strengthening access management practices. Implementation of these recommendations has been approved by the Montana Transportation Commission and MDT management; however, there has been only limited progress implementing them due to a lack of resources. The recommendations are to improve safety and the productivity of the current highway system. Current practices do not provide specific criteria or a system classification specifically for access management.

- **Need to involve other jurisdictions in addressing corridor preservation and access management.**

  As recommended in the 1999 Access Management Project, it is crucial to involve metropolitan planning organizations, counties, cities, and other jurisdictions in any comprehensive attempt to manage access to the system of principal and minor arterials, as these jurisdictions make the land decisions that give rise to the problem.

  It is important to balance land use objectives of communities with the State's mission of preserving the integrity and safety of the highway system. However, because of the importance of highways to Montana's communities and businesses, MDT should strive for a reasonable balance, as opposed to simply preserving flow on the roadways.

- **Importance of demonstrating the benefits of access management.**

  The 1999 Access Management Project and national research shows that successful access management will enable Montana to increase the use of existing infrastructure without adding capacity. This is an attractive proposition and the benefits of access management need to be communicated to local jurisdictions and the business community.

- **Increased importance of corridor preservation.**

  Montana's growth and development patterns will continue to result in the greatest concentration of growth in the valleys and highway corridors that provide mobility into and through Montana's high-growth areas. These development patterns increase the importance of preserving these corridors through such techniques as right-of-way acquisition, local ordinances requiring set backs, and access management. Without these techniques, it will become increasingly costly and extremely disruptive to accommodate growth.

Once an area has begun to develop, it becomes increasingly difficult to remedy the problems associated with unmanaged access. It is easier to prevent problems through proactive, judicious allocation and management of access to the highway system through the planning process in coordination with local governments responsible for land use decisions.

2. Land Use Planning Issues

- **Growth management and land use planning issues.**

  Parts of western Montana continue to experience rapid growth. This growth is geographically concentrated in a small number of counties. Growth rates are most pronounced in Gallatin, Flathead, and Missoula counties. The population forecasting conducted as part of the statewide planning process indicates that Montana can expect to see a continuation of these trends, although the rate of growth will be less than in the 1980's and early 1990's.

  This population growth has been partially accommodated by residential development in the form of new subdivisions or the permitting of new development on larger parcels of land. New development has resulted in highly visible changes in land use, especially in rural areas. This has generated citizen interest in land use planning and concern about some of the negative impacts of growth.

  In general, the growth outside of the urban areas is most visible and gives rise to the greatest concern, because this growth results in the most visible changes in land use. There is concern that parts of Montana are now experiencing a cycle of development and associated land use change similar to that in many other areas of the West. This cycle involves new residential development adjacent to established urban areas, which then creates the market for development to accommodate retail and other services.

  It is not the responsibility of a transportation agency to address growth management and land development decisions. In fact, as already stated, the authority to establish development goals lies at the local level. However, the consequences of local land use decisions often affect the demand for transportation. For example, few of Montana's new semi-rural subdivisions are linked to other neighborhoods through a platted grid roadway system. Rather, they are cul-de-sac developments with entry to their internal road networks via one or two points of access onto a collector or arterial roadway. By necessity, all traffic to or from the development will be along the adjacent arterial or collector highways where intensive points of traffic conflict and speed differentials may be created – thus creating safety and operational issues. MDT therefore is interested in local jurisdictions managing the development review process and performing land use planning that helps preserve transportation corridors and avoids these safety and capacity problems.

Growth boundaries are often suggested as solutions to local growth concerns. However, in some urban areas of the country that have established growth boundaries, development has leapfrogged beyond the boundary and resulted in longer commuting distances and more developmental pressures on communities down-stream from the boundary.

- **Lack of corridor planning or management continues to affect transportation system performance.**

  Cities and counties often allow land development to occur in close proximity to existing corridors or within the probable right-of-way of future transportation corridors. This pattern of development makes it significantly more costly to provide transportation services because of the costs for right of way. These development patterns are creating additional access demands and foreclosing future options for roadway improvements. The potential use of Federal-Aid Highway funds to preserve corridors is dependent on advance acquisition of right-of-way with state funds. Limited state resources create problems in long-term preservation of corridors using advance acquisition. Local planning actions, such as set-back ordinances or zoning to limit development within probable future highway corridors, are difficult to consistently apply.

- **Land use patterns affect the attractiveness of different transportation modes.**

  Montana's existing and future land use patterns affect transportation demand and influence the relative attractiveness of different modes. Travel demands that result from low-density residential development and subdivision development in outlying areas tend to be most readily met by the automobile. Montana is one of the most sparsely populated states in the country, with a population density of approximately six persons per square mile, but there has been significant progress addressing these transportation needs in some corridors with transportation demand management (TDM) and the expansion of van pools and bus service along commonly used commuter corridors. For example, the Missoula-Ravalli Transportation Management Association (MR-TMA) provides vanpool service between Hamilton and Missoula.

  Montana's trends in land use are not likely to decrease the rates of single occupancy vehicle trips and vehicle miles traveled. For example, in 1990 just under eight percent of the population in Montana walked to work. There is little evidence to indicate that new development will increase or maintain this rate.

  Should Montana's communities wish to encourage the use of non-single occupancy vehicles and other modes, the effectiveness of many strategies may be enhanced through land use planning. Nationally, some states and local jurisdictions are attempting to affect the demand for transportation and improve the attractiveness of non-single occupancy vehicles as part of their land use planning. This is usually achieved through zoning policy, which aims to concentrate commercial development in certain locations and restrict the sprawl

of low-density residential development. Zoning authority is usually vested in local units of government.

- **Complexity of relationships between transportation and land use and development.**

  Travel or transportation demand is altered by land use. Travel occurs where land uses are separated by distance. The amount and purpose of the travel are related to the use of the land. Different types of land use generate different traffic rates; for example, conversion of agricultural land to residential or commercial development increases the demand for transportation. Commercial activities generate more trips than residential activities. The cumulative effects of land use change affect the level of service of the existing transportation system.

  Transportation investment decisions made to maintain existing levels of service that address these travel demands can in turn have impacts on land use. Addition of capacity, or the construction of a bypass, increases the "highest and best use" of land that was previously less accessible. In slower growing areas, this usually results in the relocation of business from one part of the community to another over a number of years. This increases the market demand for highway-oriented development. When access to outlying areas is improved, development pressure in the surrounding area is increased subject to the local land use regulations. Where there is economic growth, there is a direct relationship between improved highway access and development pressure.

  This type of development places significant impacts on the transportation system. The best locations for new residential, and especially commercial development, are those with access to the arterial system. Without access management policies, these market trends can severely reduce the function of the arterial system.

- **Limited capacity at the local level to undertake land use planning.**

  A fundamental transportation issue relating to land use in Montana is that there is little land use planning in place outside the urban areas and rapid growth areas with which to coordinate transportation planning. This lack of land use planning adversely affects the ability of state and local transportation systems to anticipate and plan for new travel demands. Local units of government, cities, and counties have the authority to undertake zoning and regulate development. However, these jurisdictions have limited resources and technical knowledge with which to undertake land use planning. MDT does, however, frequently provide funding in support of transportation planning activities for small urban areas.

  The state's interest in preserving the safety and functional capacity of corridors is achieved most practically through access management planning which necessarily includes the involvement of local governments.

III. Policy Goals and Actions

This section outlines updated policy goals and actions for access management and coordinating land use planning and transportation.

A. Access Management

Access management is considered an important component of the overall transportation management effort, in support of MDT's and the TranPlan 21 2002 Update overall system management and preservation objectives. Considerable net benefits will derive from the implementation of MDT's improved approach to access management as detailed in the 1999 Access Management Project final report.

POLICY GOAL A: Improve corridor level access management to preserve the highway system.

The primary purpose of this policy is to maintain the functional integrity and safety of the highway system through access management and corridor preservation. The tools available for access management are the acquisition of access rights, the consistent application of approach standards, the establishment of limited access facilities, the issuance of approach permits, and coordination with local jurisdictions.

Action A.1. Establish an MDT Access Management Manual.

This action will document in one place MDT's policy, administrative, and technical approach guidelines for access management. The manual will be comprehensive, incorporating results from the 1999 Access Management Project, updating the 1992 Access Management Plan, and including design elements and guidelines, and policies and procedures.

Level of Effort:

Action A.2. Develop and implement approach standards as identified in the 1999 Access Management Project final report.

As a complement to the access classification scheme, MDT will continue to develop and implement new approach standards governing the issuance of approach permits. These standards will require technical and management approval for their implementation. The action will involve modernizing the 1983 Approach Standards for Montana Highways. These standards are established through MDT's administrative rule making process to which their update must conform.

Level of Effort:

Action A.3. Establish an Access Management Plan that identifies and helps preserve priority corridors.

The intent of this action is to establish a consistent approach to access management in MDT's corridors that are now experiencing, or that are forecast to experience, the greatest degradation of level of service. The action will ensure that improvement projects consider access management and that access is managed consistently on these corridors. This action will also result in stand-alone access management plans on corridors under pressure from growth and land use change. The action will be coordinated with Actions B.3 and B.5 in the Roadway System Performance policy paper and Actions B.2 and B.3 in this paper.

Level of Effort:

Action A.4. Communicate the performance benefits arising from an access management policy.

This action addresses the need to ensure that local jurisdictions, through their development approval and permitting authority, and the general public understand the safety, mobility, and financial benefits that Montana will realize through successful access management. Developers, merchants, and others in the business community, on a case-by-case basis, need to be shown how access management is good for business and economic development.

Level of Effort:

B. Land Use Planning and Transportation

Local land use planning decisions clearly impact the safety and functionality of the transportation system. MDT coordinates site impact reviews with local governments through the Systems Impact Action Process. In addition, local governments are stakeholders in the development of TranPlan 21 and are commonly involved especially through advisory committees, in environmental documents related to the addition of highway capacity. Local governments are also commonly involved in the design of state highways that lead to and travel through their communities. These project-specific discussions often result in the addition of design elements such as bike and pedestrian facilities, landscaping, and other community beautification. While the amount of interaction with local governments regarding the linkage between land use and transportation has increased in recent years, improvements and refinements would be beneficial.

POLICY GOAL A: Provide technical support and leadership to encourage local jurisdictions to support transportation corridor preservation and management through their land use planning and development permitting authority.

This policy goal recognizes the unique role MDT can play in providing leadership in the preservation of transportation corridors and the importance of local government decision-making in the development of the Secondary and Urban Highway Systems. The aim is to ensure local governments have the technical support necessary and state encouragement to undertake transportation corridor preservation, system management, and demand management, with the goal of reducing overall infrastructure costs. For example, if local jurisdictions enact setback ordinances, this can reduce greatly the future costs of transportation projects, such as right-of-way acquisition costs.

Action A.1. Work with local jurisdictions to create a "tool kit" of actions they can take to support corridor preservation through their development review and land use planning authority.

This action involves MDT establishing a working group involving local jurisdictions to identify and develop specific tools that can be used by Montana jurisdictions to support corridor preservation and management. These would be tools that local jurisdictions can consider for implementation. Part of the action would involve making the "business case" for the use of these tools.

Level of Effort:

Action A.2. Work with local jurisdictions in the early identification of urban and rural corridors under development pressure.

The intent of this action is to ensure close coordination with Montana's local governments to protect the safety and capacity of corridors likely to be under pressure from future development. Identified corridors would be potential candidates for stand-alone access management plans or other actions consistent with underlying local land use goals and plans. This action will be coordinated with Actions in the Roadway System Performance policy paper and Action A.3 of the Access Management Policy Goal.

Level of Effort:

Action A.3. Continue to support local government transportation planning activities and ensure new urban areas have transportation plans to guide system development.

The intent of this action is to ensure adequate support for transportation planning activities within Montana's urban areas and those non-urban areas under pressure from population growth and land use changes. The action includes data collection and dissemination, development of traffic models, financial and administrative support for

local transportation plans, and support for the existing multi-agency planning processes. This action does not suggest the use of highway trust funds for general land use planning activities. However, MDT will continue to insure that local official responsible for land use planning take the lead in developing local transportation plans.

Level of Effort:

Action A.4. Maintain MDT's capability to provide land use driven travel demand forecasting for MPOs.

This action involves MDT keeping abreast of the state-of the practice. MDT has upgraded travel demand forecasting capability and now uses TransCAD to support the coordination between land use and transportation planning. MDT will continue to work with local governments responsible for land use planning and provide technical support to their transportation planning.

POLICY GOAL B: Consistently apply MDT's Systems Impact Action Process to ensure developers equitably mitigate their impacts to the highway system.

Action B.1. Provide technical support to local governments in developing funding partnerships to accelerate project development.

Because of funding constraints and the short planning horizon for most developers, it is often challenging to ensure that those urban corridors identified by local governments for economic development activities have the infrastructure in place before new businesses open. This action entails updating the Transportation Commission Guidelines on Partnering and Cost Participation for Project Acceleration, developing cost participation agreements with local governments and private developers as opportunities arise, and providing technical support for corridor plans. Examples of corridors developed through corridor planning and funding partnerships include North Reserve Street in Missoula and North 19th Avenue in Bozeman. In both cases, cost participation by the businesses locating along the corridor was assured and the infrastructure was in place before travel demand increased.

Level of Effort: Continuing level of effort with increases as opportunities arise with local governments.

Action B.2. Explore and develop tools to equitably distribute improvement costs on developing corridors regardless of sequencing of the developments.

This action recognizes that as developers enter an area, the existing system can often safely accommodate early developments. As system impacts accrue, later developers will likely have to mitigate their impacts. While much of this can be overcome with corridor plans, such plans are not always possible. Because an equitable distribution of

responsibility is essential, this action commits MDT to exploring and advancing defensible approaches to the distribution of cost responsibility.

Level of Effort:

Initial Year 1:

Annual:

Timing:

Action B.3. Provide training and support on application of access management and Systems Impact Action Process to local governments and MDT staff.

The intent of this action is to increase the consistency in the application of the System Impact Action Process and to encourage local governments to coordinate development reviews early in their platting process. This action will entail developing training materials, scheduling work and information sharing sessions, and coordination as necessary with the Montana Association of Counties and the League of Cities and Towns.

Level of Effort:

IV. References

Approach Standards for Montana Highways, 1983 document prepared by MDT and adopted by the Transportation Commission.

1992 Access Management Plan, prepared by the MDT Right-of-Way Bureau.

Land Use Planning and Regulation for Local Governments, 1994. Montana Department of Commerce, Community Technical Assistance Program.

Scenic Byways Feasibility Study, 1994, Montana Department of Transportation.

Access Management Project Final Report, 1999, prepared by Dye Management Group, Inc. for the Montana Department of Transportation.

Status and Disposition of Original TranPlan 21 Policy Goals and Actions

1995 TranPlan 21 Policy Goals and Actions Access Management and Land Use Planning Policy Paper	Status	Disposition in TranPlan 21 2002 Update
Access Management POLICY GOAL A: Improve corridor level access management to preserve the highway system.	Retained.	
Action A.1. Establish a classification scheme for access management that defines the appropriate level of access and access control for different classes of state roadway according to functional classification, existing level of access, and surrounding land use.	Not implemented.	Retained and increased in importance as A.1.
Action A.2. Inventory, refine the methods, and ensure that there is adequate authority to manage access in Montana.	Completed.	New action to implement results of 1995 Action A.2.
Action A.3. Work to communicate the performance benefits arising from an access management policy.	Retained.	
Access Management POLICY GOAL B: Establish and fund a level of travel demand forecasting that will support an access management program.	Not retained.	Not needed for MDT's access management program.
Action B.1. Use the state travel Highway Information System, the TranPlan 21 travel forecasting method, and the Congestion Management System to anticipate areas and facilities in need of access management actions.	Not retained.	Not needed for MDT's access management program.

1995 TranPlan 21 Policy Goals and Actions Access Management and Land Use Planning Policy Paper	Status	Disposition in TranPlan 21 2002 Update
Action B.2. Encourage improvement of the condition of travel demand forecasting at the metropolitan planning organization level to better anticipate and identify problem areas, and to link access management policies to local land use policies.	Not retained.	Not needed for MDT's access management program.
Land Use Planning and Transportation Policy Goal A: Encourage responsible jurisdictions to establish land use planning and development permitting mechanisms to manage transportation demand by building their planning capacity.	Revised to better support MDT's corridor preservation objectives.	
Action A.1. Work with local jurisdictions to establish and implement a consistent approach for including land use and access management strategies in urban area and metropolitan planning organization plans receiving state funding.	Revised.	Revised as Action A.1 to develop the specific tools that can result in improved corridor preservation.
Action A.2. Work with the metropolitan planning organizations and urban areas to develop consistent land use driven travel demand forecasting capability.	Not completed.	Not retained, no longer needed to support policy goal.
Action A.3. Participate in a working group of the Department of Commerce and representatives of affected jurisdictions to develop and propose legislative recommendations for the 55th Legislature.	Completed.	
Action A.4. Consistently apply existing development review authority to ensure that new development contributes to the cost of resulting transportation system improvements.	Retained and updated.	Retained and updated as Action A.2.

1995 TranPlan 21 Policy Goals and Actions Access Management and Land Use Planning Policy Paper	Status	Disposition in TranPlan 21 2002 Update
Action A.5. Encourage the Department of Administration, the Long Range Building Committee, and State agencies to consider transportation demands when locating new capital facilities and leasing new property.	Completed.	
Land Use Planning and Transportation Policy Goal B: As part of the development review process, provide authority to enable local jurisdictions and MDT to require developer contributions to improvements that accommodate new traffic demands.		
Action B.1. Establish a defensible mechanism for determining the costs of transportation improvements to be paid by the developer.	Completed.	

DRAFT

TRANPLAN 21 UPDATE

2002

Bicycle and Pedestrian Policy Paper

December 2002

Montana Department of Transportation *in conjunction with* Dye Management Group, Inc.

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Montana Department of Transportation – TranPlan 21
Bicycle and Pedestrian Transportation Policy Paper

Table of Contents

I. Background 1
- A. Bicycle and Pedestrian Modes in Montana 1
- B. National Trends 3
- C. Changing Policy Environment 3
- D. Status of Bicycle and Pedestrian Facility Planning and Development in Montana 4

II. Key Bicycle and Pedestrian Policy Issues 6
- A. Public Interest in Bicycle and Pedestrian Facilities 6
- B. Planning for Bicycles and Pedestrians in Montana 6

III. Policy Goals and Actions 9

IV. References 14

I. Background

This paper is the 2002 TranPlan 21 Update to the Montana Department of Transportation (MDT) policy goals and actions for bicycle and pedestrian transportation. It updates and replaces the 1995 Bicycle and Pedestrian Transportation Policy Paper.

A. Bicycle and Pedestrian Modes in Montana

Analysis of bicycle and pedestrian data commonly distinguishes between work-related trips and errands as opposed to recreational trips. The primary source of data from which to draw conclusions about bicycle ridership and pedestrian activity is the transportation to-work data collected for the 2000 Census. These data are summarized in Exhibit I–1 for the state as a whole, and in Exhibit I–2 for selected Montana counties. These data reveal that:

- In both 1990 and 2000, walking or biking represented the third most frequently used mode of transportation to work, after driving alone or carpooling.
- The number of Montanans who walked or biked to work decreased from 30,231 to 27, 385, or from 8.7 to 6.5 percent, between 1990 and 2000.
- Missoula is the only Montana county with urban areas that experienced an increase in walking or biking to work between 1990 and 2000.

Exhibit I–1: Montana Statewide Means of Transportation to Work in 2000 (Age 16 and Over)

Mode	1990		2000	
	Number	Percent	Number	Percent
Drove alone	250,373	71.7	311,872	73.9
Carpooled	41,442	11.9	50,192	11.9
Public transportation (including taxicab)	2,050	0.6	2,812	0.7
Bicycle or walked	30,231	8.7	27,385	6.5
Motorcycle or other means	3,212	0.9	2,987	0.7
Worked at home	21,876	6.3	26,911	6.4
Statewide Total	**349,184**	**100.0**	**422,159**	**100.0**

Source: U.S. Department of Commerce, Bureau of the Census.

Exhibit I–2: Bicycled or Walked to Work in Selected Montana Counties with Urban Areas

County	1990		2000	
	Number	Percent*	Number	Percent*
Cascade	2,095	6.0	1,388	3.7
Custer	572	10.9	325	5.9
Deer Lodge	308	8.9	211	5.6
Fergus	527	10.3	452	8.3
Flathead	1,530	6.1	1,574	4.6
Gallatin	3,073	12.5	3,224	8.8
Hill	545	7.2	475	6.5
Lewis & Clark	1,941	8.4	1,761	6.2
Missoula	3,007	8.3	4,493	9.1
Park	647	10.4	600	7.8
Silver Bow	909	6.6	673	4.3
Yellowstone	2,413	4.5	1,971	3.0
Statewide Total	**30,231**	**8.7**	**27,385**	**6.5**

Source: U.S. Department of Commerce, Bureau of the Census.
Note(*): Percent of total journey-to-work trips in city

There is little information on either mode of transportation for recreational trips. There is no systematic information available about touring and recreational bicycle use either by Montanans or out-of-state cyclists and tour groups. However, the Missoula-based Adventure Cycling organization has established several nationally publicized cross-country routes through Montana and there are a number of active local bicycle clubs that organize rides and other events. The types of information that help plan for bicycle needs include: 1) periodicity, or how frequently recreational rides take place; 2) the characteristics of the riders, including whether they are separate individuals or family groups; 3) the length of the recreational trips; and 4) the routes that are most popular with riders.

Walking is an element in almost every trip. Transportation-to-work is the only systematic walking data available at the state level, and does not include the use of pedestrian facilities by those under 16 or walking for errands and other activities. One reason for the importance of pedestrian trips in Montana is that the states' urban areas are relatively old and were built as towns with much greater density than today's development patterns. Walking is also a traditional form of transportation in small towns across Montana. Public input in TranPlan 21 indicated that walking, even long distance walking, is also a traditional form of transportation on some of Montana's reservations.

B. National Trends

Over the past decade there has been an increased national interest in the ownership and use of bicycles.

The National Bicycling and Walking Study conducted by the Federal Highway Administration found that by the end of 1993, there were more than 100 million bicyclists in the United States, which represents an increase of over 33 percent in the last 10 years. More than half of the United States' cyclists are adults. Ownership of bicycles is increasing. In 1993, 13 million bicycles were sold in the United States, the highest level in 10 years. In a Harris Poll survey, half of America's adult bicyclists said they would commute to work or school at least occasionally if there were safe places to ride. (*National Bicycling and Walking Study*. Federal Highway Administration, 1991). The same survey showed that nearly 60 percent of all Americans want the government to devote more funds to making the transportation system more bicycle and pedestrian friendly. Bicycle advocates argue that the potential for shifting trips from driving alone to bicycling or walking is significant because 25 percent of trips are one mile or less, 40 percent are two miles or less, and 66 percent are five miles or less.

C. Changing Policy Environment

1. Federal Policies

In recent years, federal policy has placed increased emphasis on providing bicycle and pedestrian facilities as part of the transportation system. In 1990, the U.S. Department of Transportation stated that it is national policy to: "Promote increased use of bicycling, and encourage planners and engineers to accommodate bicycle and pedestrian needs in designing transportation facilities in urban and suburban areas" (*National Bicycling and Walking Study*. Federal Highway Administration, 1991).

Title 23 U.S.C., as amended by the Intermodal Surface Transportation Efficiency Act (ISTEA) requires the state departments of transportation and metropolitan planning organizations to include bicycle and pedestrian consideration in their transportation plans and project development activities. The Transportation Efficiency Act for the Twenty-first Century (TEA-21) continues these requirements and bicycle and pedestrian use of transportation facilities is now an established part of transportation policy and planning in Montana.

Policy statements by Congress, the U.S. Department of Transportation, and the Federal Highway Administration state that "the federal policy goal for bicycling (specifically) is to accommodate current use and to encourage increased use, while enhancing safety."

2. State Requirements

Historically, MDT has been actively involved in funding, planning, and developing bicycle and pedestrian facilities. The 1985 Footpath and Bicycle Act (Montana Code Annotated 60-3-301) is the only Montana statute that specifically addresses bicycle and pedestrian funding. This act sets a minimum annual spending requirement for footpaths and bicycle trails. Through the federal programs and other initiatives, MDT has consistently exceeded this minimum requirement.

D. Status of Bicycle and Pedestrian Facility Planning and Development in Montana

MDT has responded to an increased public interest in bicycles and new federal mandates by implementing a range of bicycle and pedestrian projects and establishing a state-level program. Montana's metropolitan and urban planning organizations and tribal governments are also undertaking planning and project development to address bicycle and pedestrian needs. Current efforts are discussed below.

1. State-level Bicycle and Pedestrian Planning

The status of the major elements of the MDT's bicycle program are summarized below:

- **Bicycle and pedestrian coordinator**

  MDT has established a state bicycle and pedestrian coordinator as required under Federal law. The coordinator is responsible for addressing non-motorized transportation considerations. This position is currently a full time position located in the Multimodal Planning Bureau. The person performs the following tasks: responds to specific requests for assistance; provides technical assistance (in the areas of justification, agreements and design standards) to state and local governmental agencies and other divisions and bureaus within MDT; distributes bicycle tourist information; acts as a clearing house for bicycle and pedestrian safety information; coordinates training for MDT staff on bicycle and pedestrian facility design, and serves on the State Trails Committee. The coordinator is currently developing a process to ensure that pedestrian and bicycle concerns are consistently addressed early in the project development process.

  Many communities have financed bicycle and pedestrian facilities. This has resulted in many technical assistance requests to the coordinator. Coordinating the use of Congestion Management and Air Quality Improvement Program funds for bicycle and pedestrian improvements is also the state coordinator's responsibility.

- **Consideration in advance planning and design**

  Bicycle and pedestrian facilities are considered in the project development process. Typically, bicycle and pedestrian needs are identified in urban area plans as stand-alone projects or as part of reconstruction projects. MDT also takes into account the potential for increased bicycle and pedestrian usage near state and national parks and nationally publicized bicycle-touring routes. These needs are also identified as part of project scoping for reconstruction projects.

- **Bicycle and pedestrian facilities are receiving funding**

  Montana is currently in the tenth year of administering the Community Transportation Enhancement Program. Annually, this program provides the mechanism for allocating about $5 million to Montana jurisdictions. Over one-half of the enhancement projects selected by local units of government involve facilities for bicycles and pedestrians. Congestion Management and Air Quality Improvement Program and the Montana Air and Congestion Initiative funds have been used for several bicycle and pedestrian projects throughout the state. In addition, a number of urban and rural highway projects have included bicycle and pedestrian improvements funded with other federal funding.

  All three Montana metropolitan planning organizations and other communities have completed non-motorized transportation plans. Bicycle and pedestrian components are included in MDT-sponsored transportation plans for several smaller Montana urban areas as well.

2. Tribal Governments and Local Jurisdictions

- **Tribal governments are planning for non-motorized modes**

  A number of the tribal governments are planning bicycle and pedestrian facilities. This is particularly important on the reservations for both safety and mobility. For many, bicycles and walking offer an affordable means of transportation.

II. Key Bicycle and Pedestrian Policy Issues

The following lists the issues raised by the public concerning bicycle facilities and some technical planning issues.

A. Public Interest in Bicycle and Pedestrian Facilities

Public involvements undertaken as part of MDT's statewide planning process and recent experience during project development reveal a strong public interest in the provision of bicycle and pedestrian facilities. Among the key issues are the following:

- An interest in bicycle and pedestrian facilities for commuting, transportation, recreation, and the preservation of environmental quality.
- A desire for increasing and improving bicycle and pedestrian facilities and safety, most notably in urban areas.
- The need to recognize the geographic and climatic constraints in Montana and the limited role for some bicycle facilities in rural areas.
- The importance of avoiding system discontinuity, by considering urban, rural, and regional differences.

B. Planning for Bicycles and Pedestrians in Montana

The considerable public interest in bicycle and pedestrian facilities expressed through public involvement processes around the state raises a number of planning issues. Simply put, these issues concern how to address bicycle and pedestrian needs in a very large, sparsely populated, rural state that experiences long, cold winters. Furthermore, in addressing bicycle and pedestrian needs, it is important to determine the role that bicycles and pedestrian facilities can play as part of Montana's overall multimodal transportation system.

1. Bicycling and Walking as Modal Options in Montana

Almost all Montanans do bicycling and walking to some degree. Based on journey-to-work data, bicycling is used as a mode of transportation by a small proportion of Montana's population. However, a large number of people walk to work, stores, and schools. Viewed from a twenty year planning perspective, bicycling and walking can provide alternative means of transportation and have the potential to help to reduce roadway congestion and air pollution in some areas.

Efforts to promote bicycle and pedestrian mobility in Montana appear best suited to Montana's urban areas. Bicycle and pedestrian components of urban area plans can include steps to sustain and increase the use of these modes. In the larger urban areas, walking and cycling can support local congestion management plans and contribute to improving the state's air quality.

Bicycle and pedestrian mobility serves mainly recreational purposes in rural areas. In rural areas, the greatest opportunity exists with rural touring routes. Efforts to improve rural facilities would be best suited to locations where they would be most cost-effective.

2. Planning Issues

- **Need to target resources to where demand is and not overbuild**

  The available journey-to-work data indicates differences in the use of bicycles between different counties in Montana. For example, bicycle use in Missoula and Gallatin Counties is much greater than in Yellowstone and Cascade (note Exhibit I-2). Similarly, there are likely to be regional variations in interest and demand for bicycle facilities. Any approach to targeting bicycle resources should recognize Montana's different urban, rural, and regional demands.

- **Accommodating bicycles and pedestrians on the highway**

  Bicycle and pedestrian facilities are most readily accommodated in the roadway right of way. Therefore, their planning, development, and maintenance is most readily incorporated into road planning and design. The key planning question is the level of highway development necessary for accommodating bicycles.

- **Designating a bicycle and pedestrian system**

  Montana has no officially designated statewide system of bicycle or pedestrian paths, routes, or trails. Designating a bicycle system is an approach taken in some states to identify preferred facilities for use by bicyclists. However, liability issues are a concern with many agencies responsible for highway maintenance.

- **Mobility benefits of bicycles and pedestrian facilities**

  Bicycling and walking provide travel options for those who are unable or chose not to drive. Depending upon the extent to which bicycling and walking results in a reduction of vehicle miles traveled, or a slower rate of growth, they could contribute to improved environmental quality. In the state's urban areas, increased use of bicycles along with other strategies could help to meet air quality standards, prevent congestion, and help to reduce demands on the highway system. Successful pedestrian and bicycling programs can provide key elements of a multimodal strategy for ensuring continued high levels of mobility in Montana.

- **Promotion of bicycle and pedestrian use through the provision of facilities**

  In many cases, local jurisdictions choose to invest in bicycle and pedestrian facilities rather than other modes, not because of predicted demand for these facilities but because they have the goal of providing infrastructure that supports modal alternatives. This approach assumes that providing enhanced infrastructure will promote and encourage the use of bicycles.

- **Bicycle and pedestrian facilities as part of the quality of life**

  At the local level, communities are increasingly interested in developing bicycle and pedestrian paths for recreational purposes. Such paths are valued more for their contribution to community livability and the overall quality of life than as a mode of transportation. Providing safe and convenient pedestrian access is also an important component of many local plans.

- **Avoiding system discontinuity**

  Ensuring system continuity is an important element of state and local bicycle and pedestrian planning. Good coordination between the state, metropolitan planning organizations, and other local governments will avoid system discontinuity. An example of system discontinuity is a bridge reconstruction project on a busy bicycle route that does not incorporate bicycle facility.

- **Recognizing the differences in bicycle and pedestrian demands**

  Planning for bicycle and pedestrian facilities needs to be consistent and based upon the type of usage, current and anticipated demand, and urban and rural location.

III. Policy Goals and Actions

This section lists the potential range of policy goals and actions that MDT can take to address the bicycle and pedestrian transportation in Montana. The range of actions is limited to those that MDT can take.

POLICY GOAL A: Institutionalize Bicycle and Pedestrian Modes

Action A.1: Continue the MDT Bicycle and Pedestrian program with the following elements:

- A coordinator to plan and assist with implementation of the TranPlan 21 goals and actions. This will include coordination with related state and local government planning efforts.
- A program of training and assistance to the Department staff to address the needs of non-motorized modes.
- Coordination with related state planning efforts including State Department of Fish, Wildlife and Parks, State Lands, Department of Public Health and Human Services, and Department of Natural Resources and Conservation.

MDT had a half-time State Bicycle and Pedestrian Coordinator until 1995, when it hired a full-time coordinator in response to a TranPlan 21 commitment. The coordinator is already undertaking a number of the tasks described above. This action would provide further direction for the development of the bicycle and pedestrian program. The extent of technical assistance will depend upon the staffing allocated to the bicycle and pedestrian program. Given the increasing levels of bicycle use in Montana, the key policy issue is whether additional effort should be made to promote even more use.

Level of effort:

Action A.2: Work with the Department of Commerce to maintain bicycle-related tourist guides and information.

This action combines the identification of tourism-related bicycle routes with tourism-related economic development. Implementation may be undertaken at the regional level, but will be most successful if undertaken in conjunction with the Department of Commerce's tourism development program. The potential of joint state and federal funding, plus private sector funding, should be examined. In addition, the guides could be published as part of

Montana's regional tourist profiles. The growing popularity of recreational bicycling offers a tourism-related economic development opportunity for Montana.

Level of effort:

Action A.3: Assist other units of government to provide transportation facilities that encourage or consider use by bicyclists and pedestrians.

Local jurisdictions have limited staff and technical expertise to consider bicycle and pedestrian needs. MDT currently provides assistance to jurisdictions that request assistance. This action will allow MDT to take a more proactive approach in helping these jurisdictions address their bicycle and pedestrian needs more effectively. Implementing this action will be the responsibility of the bicycle and pedestrian coordinator through the development and distribution of technical materials and by providing local officials with opportunities.

Level of effort:

Action A.4: Prepare and disseminate public service announcements addressing bicycle and pedestrian safety.

MDT currently provides bicycle and pedestrian safety information. This action provides the opportunity to increase public awareness that bicycling and walking are modes of transportation in Montana. The action would involve preparing radio and television "spots" as a new Public Information Office activity.

Level of effort:

Action A.5: Consider results of the 2002 Montana Bicycle Safety Study in addressing bicycle safety issues.

MDT hired a consultant to conduct a study of bicycle safety in Montana in response to House Joint Resolution 37. MDT will use the results of the study and analysis in addition to other input to address the following issues:

- Roadway and highway signage appropriate for both bicyclists and motorists.
- MDT's roadway design guidelines and standards, including those for rumble strips, related to safety and travel concerns presented by bicyclists.
- Needs for sufficient shoulder and roadside spacing to accommodate motor vehicles and bicyclists on roadways.
- Incorporation of bicycle safety requirements into state and local capital improvement programs, consistent with federal law and prior policy.

Level of effort:

Action A.6.: Develop an updated bicycle and pedestrian use baseline.

This action involves MDT developing a new baseline to improve data collection for policy, planning, and other bicycle and pedestrian related decisions. The baseline will be periodically updated and will include non-journey-to-work purposes, including recreation and touring. MDT will also calculate the economic benefits of bicycling on the State economy.

POLICY GOAL B: Target Bicycle and Pedestrian Improvements to Account for Differences in Current and Future Use.

Action B.1: Identify the most significant bicycle routes designated through metropolitan planning organization and urban area plans and selected rural "touring routes" with the greatest demand or potential demand as the basis for planning and system improvement decisions.

This action can help to ensure that any bicycle-related improvements would contribute to an overall system and ensure that the development of bicycle facilities reflects current use and anticipated future demand.

This action does not require the designation of a bicycle route system. It takes as the starting point the premise that the greatest demand for bicycle facilities and a great contribution that bicycles can make to mobility in Montana is in the state's urban areas. The action involves identifying the most significant routes in metropolitan and urban areas. These routes are being identified by local planning efforts. The action will also include selected rural "touring routes".

Level of effort:

Action B.2: Establish a consistent planning approach and design guidelines for incorporating bicycle and pedestrian facilities into highway improvement projects.

Bicycle and pedestrian needs are considered as part of the current project development process. Many different highway improvements across Montana are now including bicycle and pedestrian facilities. However, these facilities are generally considered in the later design stages of a project. They are often not factored into the preliminary design and cost calculations. A consistent approach will help avoid system discontinuity by ensuring that MDT provides a level of development for the next twenty years. This action involves establishing a series of consistent guidelines for planning bicycle and pedestrian facilities. These guidelines will need to be tied to the identification of bicycle routes in Action B.1. Further, any guidelines will need to be flexible enough to allow for the wide differences between urban and rural areas, in addition to accounting for regional use variations.

Level of effort:

Action B.3: Consider further bicycle and pedestrian improvements based upon proven use or expected future use.

This action applies to urban and other areas (excluding areas with transportation plans) by recognizing that in these areas there may be a need for bicycle and pedestrian facilities beyond accommodation on an existing shoulder. The nature of the facilities will depend on local conditions and demand. However, objective criteria are needed to determine how bicycle and pedestrian facilities should be considered. Developing thresholds based on bicycle and pedestrian use and urban-rural distinctions should avoid the over-design of facilities based upon unconstrained local demands.

The action anticipates distinguishing between different areas, based upon use and expected use, to avoid over-design. This will require establishing a way to determine bicycle usage. If current design standards for shoulder widths are adopted to meet bicycle needs in rural areas, there will be no increase in unit costs.

Level of effort:

Action B.4: Improve bicycle and pedestrian facilities in Montana through incorporation in existing projects

MDT frequently includes bicycle and pedestrian improvements as part of highway reconstruction on an individual project basis, which results in increased local and user interest in funding these improvements. However, accommodating bicycles and pedestrians through changes in design increases the unit costs of individual projects. The scale of the unit costs will depend upon the design established for on-street facilities (bicycle lanes, wide curb lanes, and shoulders).

Unless there is a safety problem, bicycle and pedestrian improvements will be implemented only where they are part of existing or planned project improvements. For example, any rural principal arterial without a shoulder would not be improved just for bicycle and pedestrian needs. The needs would be addressed at the same time as reconstruction occurs. This action will be most applicable to National Highway and Surface Transportation Program funds and would not preclude Community Transportation Enhancement Program or Congestion Management and Air Quality Improvement Program funded projects.

Level of effort:

Action B.5: Make selected bicycle and pedestrian improvements in urban areas as a congestion management and air quality improvement strategy.

This action recognizes that over the 20 year planning horizon there is some potential for the use of bicycles as part of an overall multimodal strategy for addressing congestion and air quality problems. This is particularly applicable to Montana's fastest growing counties-Gallatin, Missoula, and Flathead. Targeting existing Congestion Management and Air

Quality Improvement Program funds to bicycle and pedestrian improvements provides a good funding mechanism.

Level of effort:

Action B.6: Maintain consistent bicycle and pedestrian friendly design and maintenance standards.

As part of its on-going operations, MDT works to ensure that overall design standards for rumble strips, drive approaches, cross walks, signage, drainage, and so forth address the needs of bicycle and pedestrian users. MDT's maintenance staff will also continue to respond to requests for shoulder sweeping and other measures to enhance bicycle and pedestrian travel.

Level of effort:

IV. References

U.S. Department of Transportation, Federal Highway Administration, *National Bicycling and Walking Study, Interim Report*, (Washington, D.C., 1991)

U.S. Department of Transportation, Federal Highway Administration, *Selecting Roadway Design Treatments to Accommodate Bicycles*. (Great Falls, Virginia: Center for Applied Research, 1994).

American Association of State Highway and Transportation Officials (AASHTO), G*uide for the Development of Bicycle Facilities*.

Status and Disposition of Original TranPlan 21 Policy Goals and Actions

1995 TranPlan 21 Policy Goals and Actions Bicycle and Pedestrian Policy Paper	Status	Disposition in TranPlan 21 2002 Update
POLICY GOAL A: Institutionalize Bicycle and Pedestrian Modes.	Retained.	
Action A.1. Develop the MDT Bicycle and Pedestrian program with the following elements:	On-going.	Retained as A.1.
Action A.2 Work with the Department of Commerce to prepare a bicycle related tourist guide.	On-going.	Retained as A.2.
Action A.3. Assist other units of government to provide transportation facilities that encourage or consider the use by bicyclists and pedestrians.	Retained.	Retained as A.3.
Action A.4. Prepare and disseminate public service announcements addressing bicycle and pedestrian safety.	Retained.	Retained as A.4.
Action A.5 Encourage the Safety Management System Steering Committee to use the safety management system to provide information on bicycle and pedestrian safety.	Not retained.	Original action addressed through current study and incorporated into Action A.5.
Action A.6. Encourage the Safety Management System Steering Committee to undertake efforts to educate motorists on safely interacting with bicyclists and pedestrians.	Not retained.	Original action addressed through current study and incorporated into Action A.5.

1995 TranPlan 21 Policy Goals and Actions Bicycle and Pedestrian Policy Paper	Status	Disposition in TranPlan 21 2002 Update
POLICY GOAL B: Target Bicycle-related and Pedestrian Improvements to Account for Urban, Rural, and Regional Differences in Current and Future Use.	Retained.	
Action B.1. Identify the most significant routes designated through metropolitan planning organization and urban area plans and selected rural "touring routes" with the greatest demand or potential demand as the basis for planning and system improvement decisions.	Retained.	Retained as Action B.1.
Action B.2. Establish a consistent planning approach and design guidelines for incorporating bicycle and pedestrian facilities into highway improvement projects.	Retained.	Retained as Action B.2.
Action B.3. In incorporated areas, unincorporated communities, and Indian Reservations, consider further bicycle improvements based upon proven use or expected future use.	Retained.	Retained as Action A.3.
Action B.4. Improve bicycle and pedestrian facilities in Montana through incorporation in existing projects	Retained.	Retained as Action B.4.
Action B.5. Make selected bicycle improvements in urban areas as a congestion management and air quality improvement strategy.	Retained.	Retained as Action B.5.
Action B.6. Maintain consistent bicycle friendly maintenance standards.	Retained.	Retained and expanded to include pedestrians as Action B.6.

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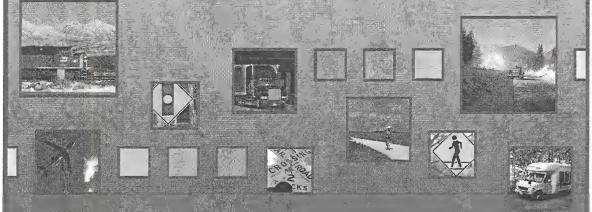
TRANPLAN 21 UPDATE

2002

Public Transportation Policy Paper

December 2002

Montana Department of Transportation *in conjunction with* Dye Management Group, Inc.



Montana Department of Transportation

Public Transportation Policy Paper

Table of Contents

I. Introduction 1
   A. Key Characteristics of Public Transportation in Montana 1
   B. Key Challenges for Public Transportation in Montana 3
   C. Importance of Public Transportation to Montana 6
II. Public Transportation Issues 8
   A. Issues Raised By Citizens and Industry Representatives 8
   B. Issues Arising From Existing Conditions and Trends 9
III. Policy Goals and Actions 13

I. Introduction

This paper is the TranPlan 21 2002 Update to the Montana Department of Transportation's (MDT) policy goals and actions for public transportation in Montana. As background, the role that public transportation currently plays in Montana's transportation system and the trends in the provision and use of public transportation in Montana are described. The key issues relating to the future role of public transportation in Montana's transportation system and policy goals and actions for addressing them are outlined.

A. Key Characteristics of Public Transportation in Montana

Public transportation is defined in this paper (and by TranPlan 21) in its broadest sense, to include all the passenger transportation options available, other than driving alone. This includes urban and rural transit, demand responsive transit for the elderly and persons with disabilities, passenger rail, intercity bus, commercial scheduled air service, and car and vanpooling. These components of Montana's current public transportation system have been examined as part of the TranPlan 21 technical work.

Public transportation services are provided by the private sector, not-for-profit organizations, and various public agencies. Montana has experienced changes in the organization and provision of public transportation. For over 20 years, there has been a steady reduction in the public transportation services available and in the use of these services. The decrease in service has been most pronounced for intercity travel. In 1979, Amtrak ended service across the southern part of the state and intercity bus services have steadily declined over the past decade. This trend continues and a number of intercity bus providers have stopped operating. There is considerable uncertainty over the future of Amtrak service across northern Montana.

The following summarizes the key features of Montana's public transportation system:

Intercity Bus. Intercity bus companies provide service to and between Montana's major urban areas, despite a severe decline in intercity bus service in Montana over the past 20 years.

Urban Transit Systems. There are urban transit systems in Missoula, Great Falls, and Billings. These systems are used mainly by the transit dependent. Overall ridership has increased from 1.6 million to 1.9 million passengers between 1995 and 2000.

Rural Transit Systems. Rural areas and cities under 50,000 population depend upon small urban and rural transit systems in addition to transportation provided through a variety of health and human service organizations. There are 11 rural public transportation systems in Montana. Two of these, Butte and Kalispell, are fixed route. These are funded under Section 5311(f) of the Federal Transit Act. These systems are operated by local nonprofit

organizations or local government, and provide demand-responsive services to the public. In 2000, the rural transit systems carried 348,423 passengers, an increase of 68,358 since 1994. MDT is following recommendations made by the 2001 Montana Rural Passenger Needs Study and is using information from the study for the annual transit grant allocation process.

Public Transportation for the Elderly and Persons with Disabilities. Operators that provide services for the elderly and persons with disabilities are eligible for federal funding for capital expenses under Section 5310 of the Federal Transit Act. Historically, Montana has had an active, successful program and received the first Section 5310 vehicles in the United States. There are now more than 75 recipients of Section 5310 funding across the state. In FY 2000, over 841,000 rides were provided to elderly and persons with disabilities, a figure that has been increasing in recent years.

TransADE Program (Transportation Assistance for the Disabled and Elderly). This program provides operating grants, awarded by MDT on a 50/50 funding ratio, to eligible transit providers who serve the elderly and persons with disabilities. This new program is funded through an annual fee of 25 cents collected on each vehicle registration.

The Real Choice Systems Change Grant. The Montana Department of Public Health and Human Services received federal grant money to develop a demonstration project titled "The Real Choice Systems Change Grant." The vision for this grant is to increase the effectiveness and efficiency of public and human service transportation systems leading improved quality of life for the transportation dependent by:

- Providing coordination expertise
- Providing appropriate technological solutions
- Providing funding for selected systems change projects

The grants will be awarded early in 2003.

Passenger Rail. Passenger rail service in Montana is provided by Amtrak, the National Railroad Passenger Corporation, which is a federally subsidized nonprofit corporation. Amtrak currently operates across the northern portion of the state, providing daily eastbound and westbound service to 12 stations in Montana. In the ten years from 1990 through 2000, Amtrak ridership increased in Montana by 11 percent. Since 1995, traffic has increased by 15 percent state network-wide. Ridership has risen at Whitefish, East Glacier Park, Essex, and Belton-West Glacier stations. This is due to increased use of rail to access summer and winter tourist destinations and the growth in population in these areas. Tourist traffic to Glacier National Park drove ridership up to nearly 100,000 passengers per year. All but Whitefish saw double-digit growth from 1995 to 2000.

Scheduled Air Service. Despite the State's sparse population, Montanans have good access to air transportation. Almost all Montanans are within a one county distance of an airport with scheduled commercial service. Air transportation services are usually provided by the private sector in response to market demand. Air transportation services to seven Montana

airports (Glasgow, Glendive, Havre, Lewistown, Miles City, Sidney, and Wolf Point) are subsidized by the federal government's Essential Air Service program. There is some uncertainty over the future of this program and the criteria affecting the subsidy.

B. Key Challenges for Public Transportation in Montana

Montana shares with the Nation an overwhelming reliance on the private automobile for mobility; however, the state faces unique challenges to public transportation. Montana lacks the compact, dense population and development patterns that traditional forms of public transportation can most efficiently and effectively serve. Instead, the state is characterized by low population densities, widespread and scattered facilities and development, isolated parking problems, no severe congestion, and short journey-to-work times.

The following describes the major challenges for public transportation in Montana:

1. Dominant Use of the Private Automobile

The people of Montana overwhelmingly choose the private automobile for their mobility needs. This preference is growing, reinforced by increasing rates of automobile ownership, land use patterns, low energy prices, and more drivers making multi-destination trips. Many Montanans think of transportation in terms of the highway and their cars.

The trends in the availability and nature of public transportation have been shaped by this even greater reliance on the private automobile, which has reduced demand for public transportation and facilitated growth and development patterns that are difficult to service efficiently by public transportation. Montana now has one of the highest rates of automobile ownership in the nation. In many communities and rural areas, the only mode of transportation available is the private automobile.

2. Low Population Densities

Montana has low population densities and relatively small communities. This results in a small market for public transportation. Although parts of western Montana will experience rapid growth over the next 20 years, the fastest growth will occur in rural areas adjacent to the larger cities. These trends are likely to result in a continuation of low-density settlement patterns that are difficult to serve by public transportation.

Low population density results in travel demands in Montana that are not conducive to the traditional forms of public transportation such as buses, light rail, or subways. These forms of mass transit require large populations traveling along heavily used corridors through densely developed, compact areas with large employment sites. This dense form of travel involves a many-to-one travel pattern, with people traveling from many locations to one or a few sites of employment. Montana does not have such

conditions. Compared to other states, Montana has few large concentrations of employment with few work sites housing over 200 employees. Most journey-to-work travel in the state is done on a many-to-many basis, with many people traveling to many dispersed locations or employment sites. In addition, it should be noted that journey-to-work trips represent a decreasing proportion of travel demand and the faster growing non-work trips are typically more difficult to serve by transit because they have scattered destinations and are not concentrated in peak hours.

3. Declining Ridership and Segmentation of the Public Transportation Market

Some modes of public transportation use in Montana are declining. There has been a decline in intercity transit and an increase in ridership of specialized services and urban transit. If these trends continue, public transportation in Montana will be targeted increasingly to particular groups or market segments with schoolchildren riding school buses twice a day, senior citizens and the disabled riding the social service van, and the remaining transit dependent segments, usually low income and those with no other travel alternatives, riding transit, where available.

4. Relative Attractiveness of the Automobile

The cost of travel, travel time, convenience, comfort, and safety are all factors affecting the relative attractiveness of different modes. In Montana, the trends associated with these tend to be in favor of automobile travel rather than public transportation.

Accounting for inflation, the cost of owning and operating an automobile increased only slightly by about 3.5 percent between 1995 and 2000 (American Automobile Association, "Your Driving Costs"). During this time, the cost of gasoline and oil fell by 4.1 percent. Driving is the most affordable, cost-effective means of transportation for the majority of Montanans. In the harder to quantify areas of convenience, comfort, and overall journey time (from door to door) it is difficult for public transportation to compete with the low cost and convenience of the automobile.

5. Land Use and Development Patterns

Butte, Billings, Helena, and many of Montana's other urban areas are much older and consequently were developed as more compact communities than newer cities in the West. Their earlier type of land use and development allows easy access by pedestrians and service by public transportation. Public transportation and pedestrian traffic go hand in hand because public transportation users, once their journey is over, must be able to easily complete their trip to their final destination on foot.

Montana's current development patterns, in both rural and urban areas, consist of dispersed growth that can only be accessed easily by car. Services and employment sites are no longer within walking distance of each other, so that several car trips are necessary to complete life-sustaining activities. New development is oriented to the automobile, with large set backs from the road, surrounded by parking lots, and lacking easy access by pedestrians and by public transportation. Much of this development competes with the older central business district as a trip destination, further reducing the market for public transportation.

6. Funding

Funding for urban and rural transit comes mainly from the federal government, local sources, and users. Restricted funding levels place constraints upon the level of service provided and the existence of services in many communities. In addition, because programs such as Section 5310 and 5311 are federally administered, MDT has no authority to amend requirements to further statewide policy goals. Current public transportation funding provides services to segments of the population in specific areas, at specific times, with extremely limited evening and weekend service. As a result, people who are dependent on public transportation have difficulty in leading the highly mobile lifestyle typical of most of their friends and neighbors. Employment is more difficult because work schedules and transportation schedules must coordinate.

7. Independent Behavior

The people of Montana value their independence and take pride in their western spirit of self-reliance, resourcefulness, and equanimity under difficult conditions. In common with most Americans, the people of Montana perceive that driving their own cars when and where they want is a right, not a privilege. Governmental mandates that would force people not to use their cars would not progress farther than the pre-planning stage, particularly when traffic congestion, development densities, and the inconvenience of using one's own car – all factors which influence people to leave their cars at home – are relatively insignificant. Most Montanans have short journeys to work and isolated parking problems, which limits the benefits to them from using public transportation. However, this independence and self-reliance could be the basis for the development by the people of Montana of innovative, attractive public transportation services that would best meet their needs.

8. New Retirees and Aging Population

In common with the rest of the country, Montana is experiencing changes in the composition of its general population and its work force. In many parts of Montana, there will be a large increase in the elderly population over the next 20 years.

Areas of Montana are attracting retirees and, as a whole, the population of the state is aging. Senior citizens who move to Montana are active and have every intention of driving as long as they can. When they are no longer able to drive safely, the provision of services to a dispersed population of senior citizens will be difficult. In previous generations, senior citizens who could no longer drive depended on their families for transportation. This network is usually not available today.

C. Importance of Public Transportation to Montana

The importance of public transportation to the state's residents is probably best understood by the people and their families and friends who lack other modes of mobility. In a country dominated by the car, to live without a car is unthinkable, except in the most densely populated urban areas. In the past, a car was not so necessary to the maintenance of life because of family networks, functioning central business districts, fewer numbers of senior citizens, less consolidation of facilities (such as medical), and closer community ties. Today people and services are remote and access is not easy. Public transportation can fill the gap between people and life-sustaining activities.

As the earlier analysis showed, there is little competition between the car and public transportation today in Montana. Therefore, public transportation is most important to that segment of the population without access to a car. It performs a social role providing basic mobility for many Montanans.

The following highlights the current and future importance of public transportation in Montana:

1. Mobility for the Elderly and Disabled

Public transportation systems are particularly important for the elderly and persons with disabilities; two population groups that are growing in size in the state. Systems serving these groups are usually small, designed specifically for the needs of their target group of users, with limited availability to the general public. They serve the elderly and persons with disabilities well and allow people to maintain their independence and remain in their own homes, without being forced to enter an institution.

These specialized systems provide services:

- On a local city, town, or county intraservice area basis (i.e., travel to grocery store and other life supporting activities).
- On a regional interservice area basis (i.e., travel to regional medical center).

2. Access to Social Service

Public transportation plays an important role in linking social services and the people who need them. Often these people have no other means of reaching the services they need. Lacking transportation, they cannot help themselves become independent and self-supporting. The elderly, persons with disabilities, low-income people, and children at risk fall into this category. Social services accessed by public transportation are medical services, senior centers, nutrition sites, sheltered workshops, adjustment training centers, and others. Public transportation allows people to meet social service goals such as independence and productive community membership.

3. Basic Mobility for Montana's Residents

A minimum level of intercity services, urban, and rural transit play a key role in ensuring the connection between Montana's rural areas, smaller cities, and large urban centers. Even with low levels of service, this connection essential for maintaining rural communities. In urban areas, it provides a basic mobility option for residents without cars and those temporarily without access to one.

4. A Tool for Managing Future Traffic Growth and Congestion and Improving Air Quality

In Montana today, public transit serves an entirely different market than the automobile. However, as parts of Montana continue to grow rapidly, public transportation can play an important role in meeting some of the new travel demands. In Missoula, transit and transportation demand management efforts play a role in improving air quality.

The TranPlan 21 2002 Update analysis indicates that Gallatin, Flathead, and Missoula counties will grow at a considerably faster rate than the rest of the state. In these counties, there will be opportunities for expanding the role of public transportation in addressing travel demand growth. MDT recognizes this and has been working with Bozeman and Gallatin County to promote the development of a transit provider.

II. Public Transportation Issues

A. Issues Raised By Citizens and Industry Representatives

In the 1995 TranPlan 21 edition, citizens and industry representatives identified a number of issues concerning the current and future roles of public transportation in Montana. The overall sentiment is one that supports, in principle, a public transportation system in Montana and believes such a system is important for social and environmental reasons in addition to maintaining mobility.

The general issues identified were as follows:

- **Desire for a multimodal transportation system.** This sentiment is strongest in the urban areas of the state. While there is recognition that the automobile will continue to be the most important means of transportation, there is strong feeling that it is time to start providing alternatives where feasible.
- **Recognition of the social role of public transportation.** There is widespread recognition that the number of people dependent on public transit will increase in the future and strong feeling that a basic minimal level of transportation service should be provided where feasible.
- **Need to promote public transportation.** The availability and benefits of public transportation are not known to most Montanans and existing services should be promoted.
- **Desire to provide transit-friendly infrastructure.** In Montana's large urban areas, there is strong interest in meeting future transportation demand through increased public transit. Land use and design guidelines that facilitate transit use are considered important for success. However, there is strong skepticism about the cost-effectiveness of existing fixed-route systems for moving people.
- **Concern about the conditions of terminals, the lack of intermodal passenger facilities and connections.** The poor condition of terminals and facilities adversely affects the image of public transportation. This concern was most acute for intercity passenger terminals.
- **Concern about lack of coordination between systems.** There is concern about the lack of coordination between existing urban, rural, and intercity systems.

The TranPlan 21 2002 Update issue analysis is consistent with these perspectives. The following general conclusions regarding public transportation were drawn from the TranPlan 21 2002 Update issue identification:

- **Position public transportation to reduce growth in vehicle miles traveled (VMT).**

  Montanans have different perspectives on the contribution that public transportation can make to reduce VMT. However, in those communities experiencing the most growth, there is a strong interest in planning for public transportation and facilitating transportation demand management.

- **Promote public transportation and transportation demand management.**

  There remains a strong interest in many communities for MDT to continue to promote public transportation. This includes factoring public transportation into highway planning and project design.

- **Continued interest in passenger rail and concern over Amtrak's future.**

  Montanans remain concerned about the future of Amtrak and are interested in identifying opportunities for rail to meet current and future travel demand.

B. Issues Arising From Existing Conditions and Trends

The following public transportation issues arise from the evaluation of recent trends, existing conditions, and practices as part of the TranPlan 21 technical work.

- **TranPlan 21 has established clear policy goals defining MDT's role in public transportation.**

  MDT's current involvement in public transportation is through the administration of federal funding programs, the use of Surface Transportation Program funds, and the TransADE program. MDT's involvement is restricted to urban and rural transit systems and transportation for the elderly and persons with disabilities. In this capacity, MDT is helping to ensure minimum levels of mobility in rural areas and statewide for the elderly and persons with disabilities.

  MDT promotes intercity bus, passenger rail, and urban transit and supports transportation demand management. In addition, these providers are eligible for funding support.

  The intercity bus industry provides the only means of intercity and intrastate travel for a segment of Montanans and it continues to decline. Intercity bus services are provided by private sector firms. MDT has evaluated the actions open to state government for ensuring a minimum level of service. MDT has concluded that the most effective role for state government is facilitating the use of bus and passenger rail by making these providers eligible for certain types of funding.

  The extent of, and the rationale for, any state role in funding transit must be carefully considered. The federal and state role in highway funding is tied to the concept of functional classification. The higher the function, the higher the priority. Because of this reasoning, local roads and streets do not receive federal and state funds. These are

funded locally. By this logic, where public transportation serves a statewide or regional function there is a clear "state interest." This would indicate state interest in intercity and regional service providers.

There is, however, a state interest in having a certain minimum level of urban and rural transit to serve as a "mobility safety net" for Montanans and in having a strategy for preventing or reducing congestion in the future.

- **Public transportation is not well understood.**

  Public transportation is not well understood and its benefits are not as easy for the public to identify as the benefits of a highway widening project or the construction of a parking garage. No exact dollar amount can be placed on the value of people being able to sustain their lives and move about independently. Public transportation is a complex issue because the community must reach a consensus that mobility for everyone is an idea worth supporting in a concrete and sustained fashion.

- **Need to recognize the constraints upon transit in Montana.**

  The original TranPlan 21, in identifying issues, documented a strong public interest in public transportation and activities such as carpools, vanpools, or telecommuting for meeting travel demands and protecting the environment, especially air quality. However, there is little evidence to suggest public transportation can provide a substitute for Montana's future automobile travel demands. However, growth forecasts indicate that public transportation can be of increased importance in Montana's faster growing, more densely populated counties.

  Population growth will itself create new demands for public transportation. As Montana's population and large urban areas continue to grow, public transportation will have a role to play in meeting new travel demands but it will not remove the need for an efficient urban highway system. The opportunities for increasing the role of public transportation in meeting future travel demands will be greatest in urban areas and along the most highly traveled highway corridors.

  Public transportation may offer opportunities to preserve air quality in Montana's larger urban areas; however, public transportation can play a role in protecting air quality only if it is used. It is important to bear in mind that older diesel buses are heavy emitters of pollutants.

- **Need to identify opportunities for public transportation that will work in Montana.**

  Urban transit does not serve Montana's travel patterns well. When it attempts to do so, the resulting poor performance is used as evidence that public transportation is a waste of money and should be abolished. Urban transit operations carry about 1.2 passengers per service mile; rural operations are much lower with about 0.4 people per service mile. Rather than focusing on traditional forms of public transportation, the people of

Montana should encourage more innovative uses of bus systems and identify opportunities for other forms of public transportation, such as vanpools or carpools.

There is interest in applying technique of transportation demand management to Montana such as carpooling, vanpooling, and telecommuting that are being used elsewhere. MDT supports initiatives in this area. Where moderately successful nationally, these programs are targeted to the work trip in some of the densest and largest travel markets. There is little evidence to suggest that such measures would have much impact on travel demand in Montana's urban areas. However, there may be individual niches that can be filled by vanpools.

- **Importance of ensuring support for existing publicly funded transit.**

  For a sparsely populated, large state, Montana has an extensive network of rural transportation service providers, as well as transportation service providers for the elderly and disabled. However, there is no consensus of public opinion that public transportation is a necessary component of a community's infrastructure, in the same category as water and light, sewers, trash disposal, and streets and highways. At the same time, taxpayers are disenchanted with entitlements and "rights" and are reluctant to pay more for the public good. In this environment, it is important to build community consensus and support for public transportation.

- **Accommodation of public transportation on the highways.**

  It is important to remember that public transportation in Montana uses the highway system or, in the case of rail and air, depends upon the highways for access. Therefore, it is important to address public transportation needs as part of the project development process. This is most important in urban areas and selected corridors.

- **Continued decline in intercity bus industry.**

  The continued decline in intercity bus service in Montana means that for a majority of communities there are no intercity travel options other than a car. Currently, 28 percent of Montanans live in counties not served by intercity bus. The service levels may decrease further if Greyhound Lines, Inc. ceases to operate in Montana. For people with no car, limited resources, and no family to rely on, intercity travel is impossible in many parts of the state.

  It is not feasible for existing providers, comprised of small, specialized transportation systems, to meet intercity travel needs. Rural communities have limited budgets and have vehicles only for local service. There are some regulations which prevent intercity travel. Therefore, some senior citizens have no options, except car or ambulance, to get to the regional medical center two hundred miles away.

- **Performance goals and standards for public transportation.**

  MDT has implemented a system for managing public transportation that provides performance measures such as passengers per mile, and cost per mile to provide improved information for public transportation.

- **Need for improved coordination and cooperation between providers.**

  Coordination of services can bring more service to users and provide for more efficient use of resources. This was identified as a significant issue in the original TranPlan 21 and remains an important issue for Montana in 2002. Cooperation between public transit needs and private transportation systems inevitably leads to issues about regulations. Often these state and federal regulations prevent coordination of services. For example, senior citizen transportation services cannot provide rides for clients of the adjustment training center and certainly no one rides a school bus except children involved in school related activities.

  Coordination and information sharing about transportation activities and transit services for specific segments of a community are lacking, and transit providers have difficulty in sharing resources such as vehicles, staff, maintenance, and funds.

III. Policy Goals and Actions

This section outlines updated policy goals and actions for MDT's role in public transportation.

POLICY GOAL A: Promote and support increased use of public transportation systems.

Action A.1: Support local promotional/educational programs to publicize public transportation opportunities.

This action supports local efforts to publicize the availability of public transportation and encourage its use. A major emphasis in the program will be on changing people's attitudes about public transportation and then their actions. Potential riders will have to be educated on how to use the available services and reassured as to the service's safety, reliability, and convenience. Promotional activities should communicate "what's in it for me" to the potential rider in the most specific terms.

Level of Effort:

Action A.2: Ensure highway improvements address public transportation needs.

This action considers transit infrastructure needs in advance project planning and design. Including public transportation in the initial stages of urban highway improvement projects makes public transportation an integral part of the area's transportation network and reduces the need for expensive and disruptive retrofits of the street and highway network. Bus pullouts, sidewalks, and park and ride lots are easier to build as part of a highway project than add later. The recommendation is applicable to fixed route systems. In urban areas, fixed route transit system needs should be included in metropolitan planning organizations and urban area long-range plans.

Level of Effort:

Action A.3: Continue to provide state-level funding support for transit by providing a fixed amount of funding for rural transit systems "off the top" of Surface Transportation Program funds, and transfer Urban Highway funds to transit at the request of local governments.

This action uses Surface Transportation Program to provide a mechanism for making flexible funding available to rural transit systems. The transit providers will be required to meet the required match for capital funds and to meet operating costs. To meet the match, providers will require local funding.

Action A.4: Coordinate state planning, urban area and transit system development planning, and management.

There is already a good level of coordination. This action will ensure further coordination between planning and management of the highway and transit systems by increasing transit agency participation in urban area planning, either through participation on policy committees or more involvement in technical committees. In turn, there will be state interest in the transit development planning undertaken by the transit systems. These transit plans should offer mechanisms to evaluate transportation demand management and innovative service initiatives in Montana's urban areas. In addition, transit development plans should identify any associated highway improvements necessary for enhancing transit.

Level of Effort:

Action A.5: Assist communities to establish transit systems to meet future travel demands.

This action involves MDT working with the fastest growing communities, such as Bozeman, to establish transit systems. The focus should be on proactive planning in those areas in which transit will become a viable element of a multimodal transportation system due to the growth anticipated in the next 10 to 20 years.

Action A.6: Monitor and report on transit system performance using the public transportation management system.

This action involves MDT using the public transportation management system to provide information on the performance of transit systems in Montana. This system establishes minimum service goals against which performance and transit needs are measured.

Level of Effort:

POLICY GOAL B: Preserve existing intercity public transportation service and encourage/facilitate the development of new services.

Action B.1: Promote the use, and communicate the availability, of Section 5311(f) funds for intercity passenger service.

This action involves MDT informing potential providers of intercity passenger service of the availability of Section 5311(f) funds for eligible projects. The intent is to make communities and providers aware of this funding source and that MDT's priority in allocation is intercity passenger service.

Level of Effort:

Action B.2: Support the provision of intercity bus service through TransADE.

This action involves making Transportation Assistance for the Disabled and Elderly (TransADE) funds available for intercity service. Implementation will require including intercity service as an eligible use of funds.

Level of Effort:

Action B.3: Work to improve intermodal passenger facilities.

This action continues the consideration of funding for improved passenger rail and intercity bus facilities under Section 5311(f). Many of the state's rail and bus stations are in poor condition. Improvements can make public transportation more attractive and increase its patronage. The action will require working with Amtrak, airports, and intercity bus providers.

Level of Effort:

Action B.4: Coordinate with Amtrak, the Congressional delegation, and others to facilitate increased use of rail and preservation of existing service levels.

This action involves MDT continuing to maintain a working relationship with Amtrak and others to identify state actions that may increase the use of Amtrak and preserve existing levels of service. There has been a decrease in passengers using stations in eastern Montana and Federal support for Amtrak is in jeopardy.

Level of Effort:

Action B.5: Ensure that Montana's interests in maintaining current and expanding passenger rail service are addressed in any national decision-making concerning increased Amtrak service.

This action involves tracking national initiatives to maintain and increase passenger rail and ensuring that Montana's interest in preserving and expanding service is pursued aggressively.

Level of Effort:

POLICY GOAL C: Work to improve service to social service passengers and the transportation disadvantaged—the elderly, children at risk, low income, and persons with disabilities—through interagency coordination.

Action C.1: Improve state agencies and local provider cooperation in funding coordination.

This action will involve all state agencies reporting expenditures on passenger transportation. This offers an opportunity for improving the effectiveness with which public transportation dollars are spent. The action may involve legislation that requires all agencies

to report this expenditure. The MDT could then use this information to identify opportunities for coordinating social service passenger transportation programs.

Level of Effort:

Action C.2: Use TransADE funding as a medium for improved coordination.

The need for improved coordination is a persistent problem. Various state, local, and non-profit social service organizations provide transportation services beyond those funded through the MDT's programs. There is only a limited amount of coordination between these agencies. This is because many of the agencies do not consider themselves to be in the business of delivering transportation services. This action uses TransADE as a mechanism for improving this coordination and avoiding the duplication of funding and overlapping functions. This could result in the increased utilization of existing equipment, improve service, and make for a more effective use of public dollars.

Level of Effort:

Action C.3: Work with the Public Service Commission to facilitate easier entry into passenger service provision (especially Medicaid transportation).

This action will identify opportunities for reducing regulations, without jeopardizing safety and reliability, and streamline procedures for providing service.

Level of Effort:

POLICY GOAL D: Identify and implement transportation demand management actions that will work in Montana.

Action D.1: Continue to work with metropolitan planning organizations and urban areas to include demand-side strategies in their plans.

This action supports existing planning efforts and encourages Montana's urban areas to work with the transit systems to identify and consider demand-side strategies applicable in Montana as part of their urban area planning. A number of these plans address transportation demand management. The action involves MDT, through its participation on the policy and technical committees and the development and distribution of "TDM Tool Kit" supporting work, to establish innovative transportation demand management solutions.

Level of Effort:

Action D.2: Work with other state agencies to develop a transportation demand management program for state government.

This action involves MDT's ongoing support for transportation demand management in state government. The MDT participates in and encourages the most effective approaches for state employees. State government is the largest employer in Helena and has many

single large employment sites that are more conducive to transportation demand management. The program should be long-range in perspective and involve incremental implementation. If participation is low and trip reduction minimal, the program should be terminated.

Level of Effort:

Action D.3: Support the implementation of rural ridesharing.

This action involves MDT continuing to support rural ridesharing programs. Nationally, most ridesharing has been developed as a congestion management strategy. This action involves supporting ridesharing programs in rural areas as an approach to meeting basic mobility needs.

Level of Effort:

Status and Disposition of Original TranPlan 21 Policy Goals and Actions

1995 TranPlan 21 Policy Goals and Actions Public Transportation Policy Paper	Status	Disposition in TranPlan 21 2002 Update
POLICY GOAL A: Promote and support increased use of public transportation systems.	Retained, on-going.	Retained as Policy Goal A.
Action A.1. Support local promotional/educational programs to publicize public transportation opportunities.	Retained, on-going.	Retained as Action A.1.
Action A.2. Ensure highway improvements address public transportation needs.	Retained, on-going.	Retained as Action A.2.
Action A.3. Provide state-level funding support for transit by providing a fixed amount of funding for rural transit systems "off the top" of Surface Transportation Program funds, and transfer urban highway funds to transit at the request of metropolitan planning organizations.	Retained, on-going.	Retained as Action A.3.
Action A.4. Coordinate state planning and urban area and transit system development planning and management.	Retained, on-going.	Retained as Action A.4.
Action A.5. Establish minimum transit service goals in cooperation with local agencies.	Completed.	On-going monitoring of performance accomplished through Action A.6.
POLICY GOAL B: Preserve existing intercity public transportation service and encourage/facilitate the development of new services.	Retained, on-going.	Retained as Policy Goal A.
Action B.1. Work with the intercity bus industry to identify the most effective state-level actions for preserving existing service.	Action completed.	Findings part of on-going plan implementation through Action B.1 and B.2.

1995 TranPlan 21 Policy Goals and Actions Public Transportation Policy Paper	Status	Disposition in TranPlan 21 2002 Update
Action B.2. Evaluate the costs and feasibility of funding new intercity service in unserved areas.	Action completed.	Findings part of on-going plan implementation through Action B.1 and Action B.2.
Action B.3. Fund the implementation of a "rural ridesharing" demonstration program.	Retained and improved.	Retained and strengthened as Action D.3.
Action B.4. Work to improve publicly owned intermodal passenger facilities.	Retained, on-going.	Retained as Action B.3.
Action B.5. Coordinate with Amtrak to facilitate increased use of rail and preservation of existing service levels.	Retained, on-going.	Retained as Action B.4.
Action B.6. Evaluate intermodal passenger connections using existing bus, train, or airline terminals.	Completed.	
Action B.7. Ensure that Montana's interests in expanded passenger rail service are addressed in any national decision-making concerning increased Amtrak service.	Retained, on-going.	Retained as Action B.5.
POLICY GOAL C: Work to improve service to social service passengers and the transportation disadvantaged—the elderly, children at risk, low income, and the disabled—through interagency coordination.	Retained, on-going.	Retained as Policy Goal C.
Action C.1. Improve state agencies and local provider cooperation in funding coordination.	Retained.	Retained as Action C.1.
Action C.2. Establish a statewide coordinating council to increase flexibility in budgets and budgeting processes so that transportation providers can more easily access and coordinate available funds.	Not retained.	Original action was not possible to implement.

1995 TranPlan 21 Policy Goals and Actions Public Transportation Policy Paper	Status	Disposition in TranPlan 21 2002 Update
Action C.3. Work with the Public Service Commission to facilitate easier entry into passenger service provision (especially Medicaid transportation).	Retained.	Retained as Action C.3.
POLICY GOAL D: Identify and implement transportation demand management actions that will work in Montana.	Retained, on-going.	Retained as Policy Goal D.
Action D.1. Encourage metropolitan planing organizations and urban areas to evaluate demand-side strategies in their plans.	Retained, on-going.	Retained as Action D.1.
Action D.2. Work with other state agencies to develop a transportation demand management program for state government.	Retained, on-going.	Retained as Action D.2.
Action D.3. Support the implementation of rural ridesharing.	Retained, on-going.	Retained as Action D.3.

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385 copies of this publication were produced at an estimated cost of $1.31 per copy for a total of $504.00, which includes the cost of printing and binding and $385.00 for distribution.